

1/1/04-03425

**FINAL
WORK PLAN
FOR
BERM SOIL EXCAVATION, SCREENING, TREATMENT AND DISPOSAL
STONEBAY RANGES
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA**

Prepared for:

DEPARTMENT OF THE NAVY
Contract No. N62470-02-3260



Atlantic Division
Naval Facilities Engineering Command
6506 Hampton Boulevard
Building A (South East Wing) 3rd Floor
Norfolk, VA 23508

Submitted by:



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Task Order 0013
Shaw Project No. 100105
January 2004

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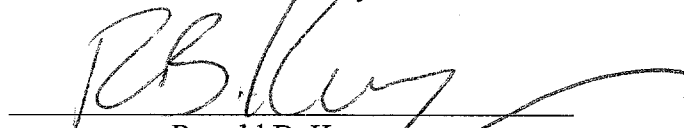
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Atlantic Division - Naval Facilities Engineering Command
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January 2004
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1.0 INTRODUCTION

This *Draft* Work Plan presents Shaw Environmental Inc.'s (Shaw) approach to implementation of the scope of work under Delivery Order No. 0013 of Navy Atlantic Division (LANTDIV) Contract N62470-02-D-3260.

This work plan identifies and describes how Shaw will implement the major tasks at Stone Bay Ranges SRR-64 and SRR-227 encompassing the removal and separation of bullet fragments, chemical stabilization of lead-contaminated soil, and site construction activities in preparation of bullet trap installations.

1.1 SITE BACKGROUND

Camp Lejeune is a training base for the U.S. Marine Corps, located in Onslow County, North Carolina. The base covers approximately 234 square miles and includes 14 miles of coastline. The Atlantic Ocean, to the northeast bound MCB Camp Lejeune to the southeast by State Route 24, and to the west by U.S. Route 17. The town of Jacksonville, North Carolina is located north of the Base. The general site location is presented as **Figure C-1**.

1.2 SITE DESCRIPTION

Ranges SRR-64 and SRR-227 are located in the Stone Bay area of MCB Camp Lejeune on the west side of the New River. The ranges are essentially flat with earthen berms located parallel to the target lines to prevent bullets from leaving the range area.

The Stone Bay area of Camp Lejeune is located on the western shore of the New River, across from Camp Lejeune mainside and immediately north of State Route 172. A map of the current site conditions at SRR-64 is presented as **Figure C-2** and SRR-227 as **Figure C-4**.

1.3 PROJECT OBJECTIVES

The primary objective of this project at the Stone Bay Ranges at Camp Lejeune is to remove and recover bullet metals from site soils using a screening operation, and then chemically stabilize the and reduce the mobility of lead present in the screened soils for re-use on site as needed. This is being accomplished as part of the range management program to minimize the potential for environmental releases at the small arm ranges. Recovered bullet metals will be shipped to an off-site recycling facility. The soil will be physically screened, chemically stabilized on-site and used as backfill material during construction of the upgraded range berms. In addition, site infrastructure including concrete pads and electrical installations will be constructed in support of the installation of a new bullet trap with a dust collector to capture bullets and prevent further lead contamination of the berm soil.

2.0 PRE-CONSTRUCTION ACTIVITIES

2.1 PRECONSTRUCTION SUBMITTALS

The following plans have been developed for Task Order 0013 and are to be considered as complementary components to this work plan:

- Site-Specific Health and Safety Plan Addendum (SHSP) (included herein as Appendix A)
- Construction Quality Control Plan Addendum (CQCP) (included herein as Appendix B)
- Sampling and Analysis Plan Addendum (SAP) (included herein as Appendix C)

2.2 PERMITS

Shaw will prepare secure all necessary permit applications for submission by the Base as required for construction of this remediation system. Permits required for this project include the following:

- Utility clearances
- Base construction/digging permits
- Electrical Permits

2.3 PROCUREMENT

Upon approval of this Work Plan, Shaw will initiate procurement of new equipment, materials, and subcontractors necessary for the execution of this project. The major equipment and materials to be procured include:

- Soil power screening unit
- Concrete for bullet trap foundations and sidewalks
- Tri-sodium phosphate (TSP) for soil stabilization

Specialty subcontractors may be procured to execute certain portions of work. The following is a list of anticipated subcontractors to be procured:

- Electrical contractor for power distribution to the bullet traps
- Laboratory services for analyses
- Transportation and disposal services for residuals management

2.4 PRECONSTRUCTION MEETING

Upon acceptance of this Work Plan, Shaw will participate in a pre-construction meeting at MCB Camp Lejeune with Base, LANTDIV, and other parties prior to mobilization to the site. Shaw representatives

will include at a minimum the Project Manager and Site Supervisor. The purpose of this meeting will be to:

- Confirm roles and responsibilities of key personnel and flow of communication for project execution
- Review the project schedule and range closure periods, work hours, sequence of tasks, and key milestones
- Identify and discuss Base-specific issues relative to the upcoming mobilization and construction activities
- Obtain the necessary security clearances for operations personnel

3.0 DEMOLITION AND CONSTRUCTION TASKS

3.1 MOBILIZATION

In addition to any crew that are presently working at Camp Lejeune, Shaw will mobilize additional personnel and equipment as necessary from its nearby offices. Prior to beginning work on site, a training meeting will be conducted to brief all site personnel on the Site-Specific Health and Safety Plan, construction drawings, and other relevant site-specific plans. Site hazards and conditions will be discussed and all personnel will acknowledge their understanding and compliance with the plan by signing an approved acceptance form.

3.2 SITE PREPARATION

Following is a discussion of the project mobilization and site setup activities that will be common to both Range work sites. Additional details are discussed in the sections dedicated to the individual Range sites. Common project site preparation activities will consist of the following activities:

3.2.1 Temporary Facilities Installation

Shaw will mobilize a small office trailer as an administrative area and command center for managing both Range work sites. This trailer will serve as the control check point for all contractor/ subcontractor personnel entering the site. Additionally, site services such as communication, sanitation, and trash service will be established at this time.

3.2.2 Health and Safety Zones

The site will be segregated into work areas on the basis of degree of hazard and PPE requirements. In general, the fenced area excluding the open excavations will comprise the contamination reduction zone (CRZ). Personnel working within the CRZ will be required to wear the appropriate PPE as outlined in the Site-Specific Health and Safety Plan. Excavation areas within the CRZ will be designated the exclusion zone and will be delineated by orange safety fencing. Shaw Health and Safety personnel will provide site air monitoring and will adjust work zone boundaries as appropriate.

3.2.3 Decontamination Areas

Personnel and equipment decontamination areas will be provided within the Contamination Reduction Zones (CRZ) upon exiting the contaminated working areas. The Site-wide Health and Safety Plan and Work Plan Addendum address these areas in detail.

3.2.4 Site Survey

Shaw will survey the area of removal on the existing berms and layout the limits of affected areas. The berm limits will be visibly marked using reinforcing bars and/or wood stakes. Shaw will also mark the

location of other features such as equipment lay down areas, retaining walls, concrete trenches, and new sidewalks as necessary.

3.2.5 Utility Clearances

Shaw will contract to provide utility location services consisting of identification and marking of all known utilities potentially within the work zones. Shaw will exercise caution while performing intrusive work and will implement its Standard Operating Procedures for excavation near utilities. Techniques for minimizing damage to existing utilities include the use of location devices, utility location services, and hand digging.

3.2.6 Clearing and Grubbing Activities

Prior to the demolition or soil screening activities at the site, work areas will be cleared and grubbed of existing vegetation as needed. The above-ground growth and roots will be removed from these area utilizing an excavator equipped with a fabricated root rake. Hand tools including chainsaws or brush hogs will also be utilized as needed. The removed vegetative materials will be agitated at the removal point to assure lead fragments are removed and not transferred to the staging area adjacent to the work area. This material will be sampled for landfill facility acceptance as specified in the T&D section.

3.3 RANGE SRR-64 ACTIVITIES

At both Range work sites, demolition activities of existing structures will be conducted before soil screening operations begin. Upon completion of the soil screening/ lead removal activities, construction of the infrastructure required to install new firing lanes and bullet traps will occur. The following sections provide a discussion of the proposed methods for completing this work at range SSR-64

3.3.1 DEMOLITION OF EXISTING STRUCTURES

Existing range structures requiring demolition at SRR-64 are shown in **Figure C-2**, consisting primarily of the four existing concrete shooting lanes. Prior to demolition these concrete areas will be either swept or pressure washed clean to assure removal of any residual lead, assuring the demolished concrete can be disposed of, or recycled as a non-hazardous debris. Demolition of the shooting lanes will then occur using the excavator equipped with a hydraulic hoe ram. The front-end loader will assist in removing the debris to the adjacent staging area until final off-site transportation and disposal arrangements can be finalized.

Additionally, the existing 50 yard target stand system will be demolished and removed from the area, the concrete slab the system currently sets on will be left in place for re-installation of another target stand system as discussed below. This target system debris will also be sampled and managed for disposal appropriately based on the degree of lead impact. The existing 25 yard target stand system will be dismantled into appropriate sections and pieces and then reinstalled at the 50 yard location.

3.3.2 Berm Soil Excavation and Screening

The berm area preliminarily identified as requiring removal and screening of bullet debris at SRR-64 is shown on **Figure C-2**. The soil on the top and side face of the berm adjacent to the range will be excavated until no lead pieces and debris remain visible in the soil. Based on Shaw's experience on other camp Lejeune ranges, the required excavation depth for complete removal will be approximately two to three feet.

Excavation will be accomplished with a tracked excavator with assistance using a wheeled front-end loader. The total volume of soils anticipated for removal and screening at SRR-64 is approximately 1,300 cubic yards (CY).

Excavation will proceed with the removal of soil on the top and front surface of the berms. After the berm soil is excavated, a visual inspection will be performed on the surrounding soil for metal bullet fragments. If metal bullet fragments are visible, additional soil will be excavated as needed. Excavation depths will be manually monitored with a tape measure or equivalent measuring device to determine excavation depth. The final depth of excavation at each berm face will be recorded in the field to document the extent of soil removal.

The objective of the screening operation is to physically separate the metal bullet fragments from the remaining soil and debris such that the lead based materials can be recycled at an off-site facility. Two other streams will be generated in this process, an oversize fraction greater than approximately 4-inch (which will consist of debris, rocks, etc), and an undersize fraction less than 1/4-inch. The oversize will be sampled and managed appropriately, but has typically tested as non-hazardous solid waste debris on similar projects. The undersize soil may contain leachable lead, which will undergo on-site stabilization prior to reuse at the site as discussed in Section 3.3.

Note that no Range Debris will leave the Range unless properly certified and verified as inert and no soils will leave the site before properly analyzed for hazardous waste characteristics.

Potentially contaminated soil excavated by the backhoe from the berm area may be transported directly to the screening plant or will be stockpiled on plastic sheeting temporarily. Any stockpiled soil which may be lead contaminated shall be covered with plastic sheeting prior to leaving the site at the end of each day and when rain occurs to minimize the potential for contaminated storm water run-off at the site.

A front-end loader will deliver excavated soil to a grizzly screen feeder on the power screening plant to separate large debris, rocks, and oversize material greater than 4-inch diameter. Oversize material will be stockpiled, sampled for lead, and then managed appropriately.

Material less than 4-inch will be conveyed to the vibratory shaker screen, which will further size segregate the soil particles. Based on the effectiveness of the first screening event, and second-re-screening of the material may occur. Bullet fragments and range debris will be separated from the soil as a separate stream.

This material will later be certified for recycling as per the Standard Operating Procedure provided in **APPENDIX D**. Soil passing through the small diameter screen will be stockpiled separately until chemical stabilization occurs as discussed below.

3.3.3 Soil Stabilization

The less than 3/16-inch screened soils shall be placed on plastic sheeting in the designated soil stabilization area in piles containing 100 cubic yards or less. Trisodium phosphate stabilization agent at a mix ratio determined by treatability testing will be added to each of these stock piles of soil to stabilize the lead. The stockpiled soil will be mixed with the trisodium phosphate material on the plastic sheeting using the backhoe. A five-point composite sample will be collected from each stabilized soil stockpile and sent off-site for TCLP-lead analyses as indicated in the sampling and analyses plan. Once it is determined that lead the contaminated soils have been stabilized and are not leachable, the treated soils will be used as backfill on the berms that have had the bullet fragments removed. If the soil is not suitable for use as backfill for the berms, Shaw will notify and consult with the NTR to evaluate available options, and may make recommendations for additional testing/stabilization and/or other disposal options based on laboratory results.

3.3.4 Concrete Installations

At Range SRR-64 location, new concrete installations will occur for new shooting lanes and the bullet trap. Three new shooting lanes, each approximately 3 feet wide by 212 feet will be constructed at 7, 15, and 25 yards up range from the newly installed target stand system. These walks will be 4-inches thick with a 6 by 6 inch woven wire fabric installed midway through the pour. Construction and control joints will be cut into the walkways within 24 hours of concrete placement.

3.4 RANGE SRR-227 ACTIVITIES

The demolition and construction activities at Range SRR-227 are very similar to Range SRR-64, yet on a somewhat smaller scale. Refer to the previous sections for detailed discussions on some activities to avoid text repetition.

3.4.1 Demolition of Existing Structures

At Range SRR-227 demolition of existing structures will include removal of an existing shooting walkway and three timber walls, as shown in **Figure C-4**. As discussed, concrete and wood structures scheduled for demolition will first be cleaned of any lead residues as best possible before demolition will begin. At SRR-227, it is possible the timber walls may contain bullet fragments. If this is visually confirmed, this debris will be separated and managed separately from the concrete, which is typically not lead impacted. All debris will be sized appropriately for transport vehicles and disposal facility requirements. This debris will be sampled at the on-site staging area for TCLP lead analysis to determine proper disposal.

3.4.2 Berm Soil Excavation and Screening

Methods for screening soils at SRR-227 will be identical to those presented in Section 3.3.2. The preliminary area identified for removal and screening is between the timber walls and the front side of the soil berm located behind the range, as presented in **Figure C-4**. The estimated volume of soils requiring treatment at SRR-227 is approximately 330 cubic yards.

3.4.3 Soil Stabilization

Soil stabilization procedures will be identical to the methods discussed in section 3.3.3. Based on the estimated volume of soils requiring stabilization, 13 tons of tri-sodium phosphate would be required to stabilize the residual lead at a 2.5% mix ratio.

3.4.4 Concrete installations

Concrete installation at SRR-227 will consist of the pad for bullet trap placement, as well as a 45 foot long shooting slab installed directly in front of the bullet trap slab. The bullet trap pad will be 22 feet deep by the width of the existing retaining walls, which is 51 feet, with 12 foot by 8 foot "leg" where the Dust Collection Unit (DCU) will be located. As with the other range, the shooting pad will be constructed 4 inches thick with a 6 by 6 inch wire mesh fabric embedded. The bullet trap will be six-inches in depth with Number 4 re-bar installed 12 inches on center.

3.5 SITE RESTORATION

Site restoration activities at Ranges SRR-64 and SRR-227 will be similar except for the differences in the amount of soil handling and final grading, with SRR-64 requiring more soil movement and restoration.

As previously discussed, stabilized soils will be tested for leachable lead levels before release from the soils treatment areas. These soils will ultimately be blended with other, unimpacted site soils during final grading of the sites prior to seeding activities. At both sites, the remaining berm area soils, along with any treated soils, will be graded out to the limits of the installed silt fences, as shown in **Figure C-3** for SRR-62 and **Figure C-5** for SRR-227. Final grading will be conducted to closely mimic the existing surrounding topography of the area while assuring there are no low spots that will collect and hold water.

Following final grading of the site, seeding of the graded areas will occur.

4.0 ELECTRICAL POWER DISTRIBUTION

As part of the infrastructure installation at the Ranges, Shaw will also provide primary electrical power for the bullet rap dust collectors by tapping into the Base's existing 12.47 kV power lines. Shaw will employ a licensed electrical subcontractor to insist in the installation of new power poles, transformers and the required amperage service entrance rated panel boards. The specifics of each site are discussed further below:

4.1 RANGE SRR-64

At Range SRR-64 electrical installation, a new pole with 3, 15 KVA transformers will be installed along Rifle Range Road. Approximately 630 feet of two-inch underground conduit containing the specified wiring to the to be terminated at the newly constructed pad for the bullet trap. At this location, a main panel board, 80 Amps, NEMA 3R rated will be mounted on a new service poles. Approximately 240 feet of underground conduit containing the required wiring will be run from the panel board back up range to Building SRR-64 where the bullet trap start/ stop switch will be located. Refer to **Figure E-1** for an overview of the range electrical plan and **Figure E-3** for details.

4.2 RANGE SRR-227

At Range SRR-227, three, 10 KVA transformers will be attached to the existing power pole to the north of the bullet trap location. From there underground conduit and wiring will be run to the location of the bullet trap supply panel as above. The supply panel at SR-227 will be 60 Amp service. As above, underground conduit and wiring will be run back to the head of the range where the bullet trap start/stop switch will be installed. **Figure E-2** displays the electrical installation plan for SRR-227

Prior to start-up, all electrical equipment will be tested to ensure proper operation. All electrical work shall be in accordance with NFPA 70.

5.0 ENVIRONMENTAL PROTECTION PLAN

Controls for the protection of air, water and land impacts will be utilized during removal activities. Also, controls for the safe loading and transport of excavated soils will be initiated.

The land surrounding the removal activity will be preserved or restored to conditions that will not detract from the appearance of the area following removal activities.

5.1 PROTECTION OF TREES, SHRUBS AND GRASS

Areas outside of the excavation and project support areas containing native trees and shrubs will be carefully managed in order to protect the vegetation. Construction/ safety fencing will be erected around stands of native vegetation that require protection from heavy equipment traffic. Designated haul routes will be established at the site for heavy equipment traffic to limit unnecessary impact to other vegetation.

5.2 WATER RESOURCES PROTECTION

It is not expected that the Stone Bay Range project will directly impact the surface waters of the New River, however surface flows leaving the site will be controlled by temporary erosion/sediment control techniques such as berms or silt fencing as discussed below which could reach storm sewers draining to the New River. Shaw will also maintain excavation rates and stockpile volumes to assure that unnecessary soils are not exposed to excessive surface runoff during a storm event.

5.3 EROSION CONTROL

Prior to the disturbance of native vegetation and soils, temporary erosion/sediment controls such as silt fences or staked haybales will be established on the down gradient sides of the excavation areas as shown in **Figure C-2** and **Figure C-4**.

Typical silt fencing is installed with the fabric a minimum of 6 inches below grade and extending 36 inches above grade and fastened to posts no more than 6 feet apart. The posts will be installed a minimum of 24 inches below grade. Silt fences will be inspected after every rain and daily during extended rainfall. If there is any accumulated sediment observed, it will be removed before the thickness reaches 12 inches.

5.4 DUST CONTROL

To prevent any cross-contamination concerns at the work sites, as well as protect site workers,

Shaw will employ dust control measures during all phases of the project including:

1. Applying water to work and traffic areas as necessary
2. Move and load soil for transport within the site that limits free fall of material and is least likely to generate dust emissions
3. Halt-dust-generating work when on-site wind conditions exceed 35 miles per hour
4. Limit vehicle speed to minimize dust emissions

6.0 TRANSPORTATION AND DISPOSAL

This section discusses the on site management, analysis and characterization methods, and the eventual disposal methods for the various waste streams that are expected to be generated during this project. The following are the identified waste streams for the project and their intended deposition:

- Non-contaminated overburden soils – Stockpiled, re-use on site
- Removed vegetation – Stockpiled, Base recycling facility
- Lead contaminated soils – Stockpiled, re-use on site if stabilized, off site disposal if not
- Recovered bullet lead – DOT drums, Base recycling/DRMO or approved off Base recycling facility
- Used PPE clothing – Roll-off, Base landfill
- Used site erosion control materials – Base landfill upon removal

Of these, only the last four should require transportation and disposal management by Shaw. All waste streams that will require shipment off-site will be sampled for characterization as a State listed hazardous waste. Of primary concern will be if the waste stream passes a TCLP analysis for lead, otherwise that particular waste stream will be deemed a “characteristically hazardous” waste under the RCRA regulations (D011 waste code) and will require off-site disposal at a Subtitle C facility. Otherwise, Shaw will pursue disposal at the Base landfill for the wastes. A full discussion of the waste characterization analyses is presented in the SAP addendum.

6.1 WASTE LOADING

Because the larger waste streams will be stockpiled, direct loading into tandem dump trailers is the preferred transport option off site. Truck loading will occur immediately adjacent to the stockpile area to minimize cross contamination, and poly sheeting may be employed to keep the vehicle exterior and surrounding area clean if necessary. All vehicles arriving for load-out will be visually inspected by the site crew to assure the vehicle is suitable for over the road transport. Transport vehicles will be required to provide the unloaded/tare weight at the site before loading. Before exiting the site, these vehicles will be weighed on portable truck scales to assure they are not overloaded as well as document the soil volumes that are being shipped off site for the project records.

6.2 DOCUMENTATION

All require shipping papers will be completed for each transport vehicle before it is released from the site. For non-hazardous wastes, this may include a non-hazardous Bill-of-Lading and/or a Non-hazardous Base landfill manifest, as well as the completed weight ticket for the vehicle. Shaw will maintain a T&D log on-site that documents the dates, times, weights, and vehicle identifications for each transport vehicle leaving the site.

For hazardous wastes, Shaw will complete the State Hazardous Waste Manifest for the state that is receiving the waste, as well as the Land Disposal Restriction (LDR) documents. If the receiving State does not maintain a State Manifest, then the North Carolina Manifests will be used as per the regulations.

7.0 DEMOBILIZATION AND FINAL REPORT

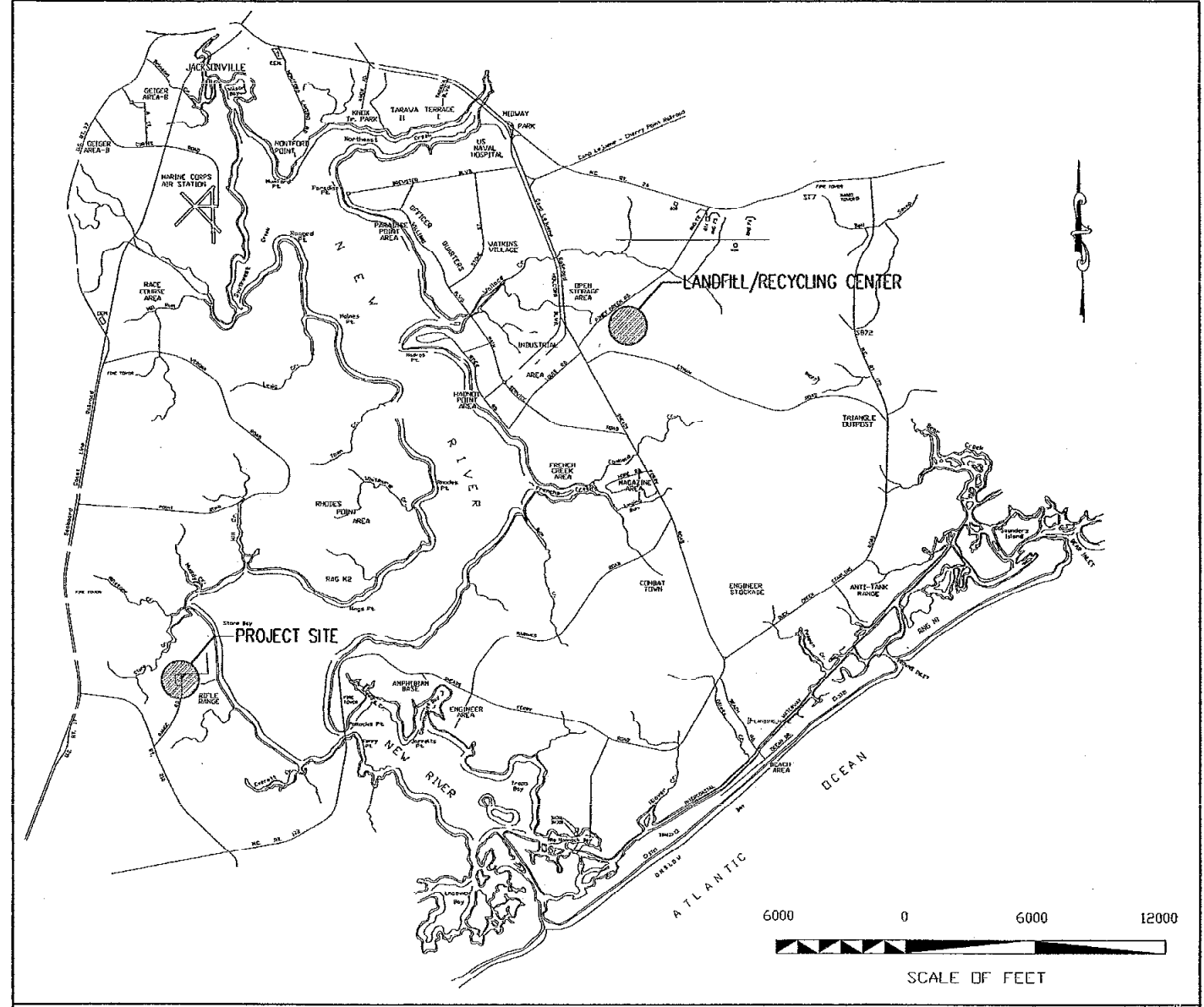
All equipment, support trailers and personnel will be demobilized from the project site. A Contractor's Closeout Report will be completed and submitted for review and comment. The Contractor's Closeout Report will include the following:

- 3 Summary of maintenance activities
- 4 Quality Control Daily Reports
- 5 On-site sample test results
- 6 Laboratory analyses
- 7 Quality assurance sample results
- 8 Contaminated material disposal and recycling documentation including manifests
- 9 "As-built" drawings showing the elevation of the range berms
- 10 Corrective actions taken (if required)
- 11 Bullet trap and dust collector operation and maintenance manual

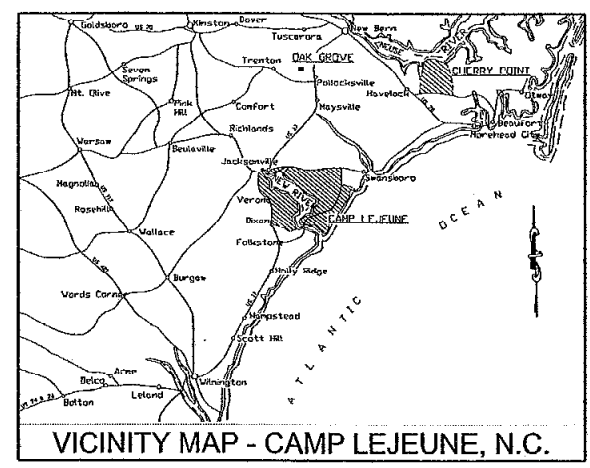
8.0 SCHEDULE

The project schedule depicts the major tasks and durations to perform the maintenance activities at the Stone Bay Ranges.

FIGURES

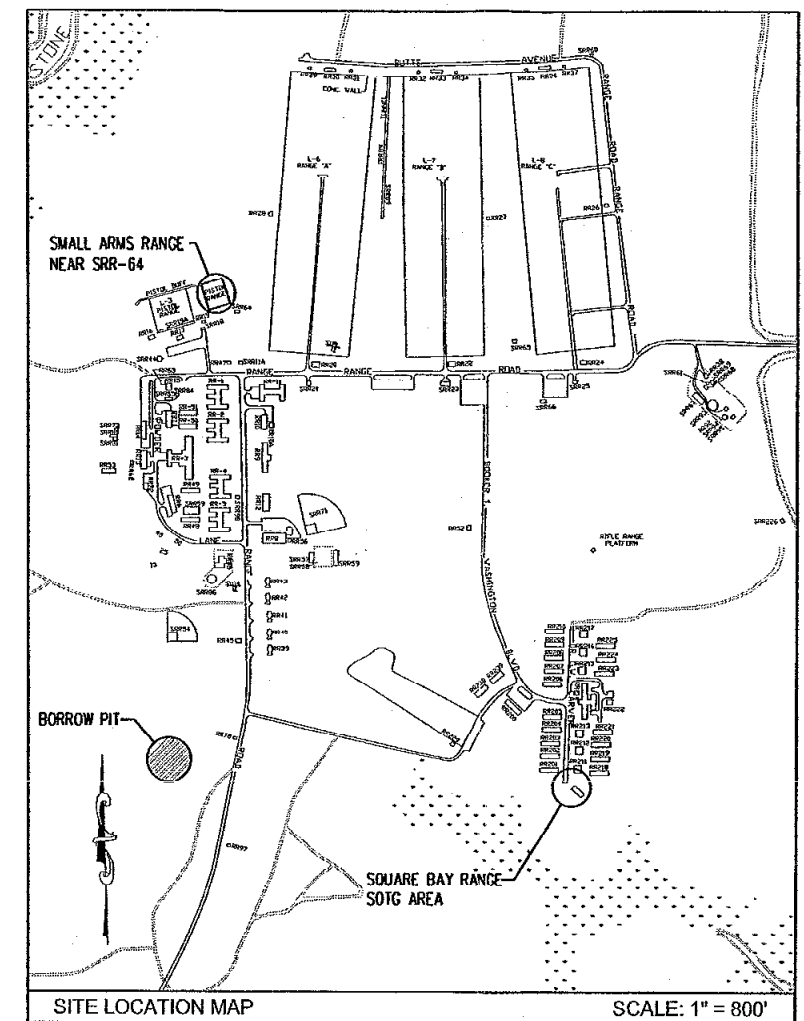


LOCATION MAP - U. S. MARINE CORPS BASE
CAMP LEJEUNE, NC



REFERENCE: DRAWINGS FROM CONSTRUCTION DRAWINGS BY AVOLIS ENGINEERING, P.A., DATED 6/24/03.

BULLET TRAPS AT SMALL
ARMS RANGE

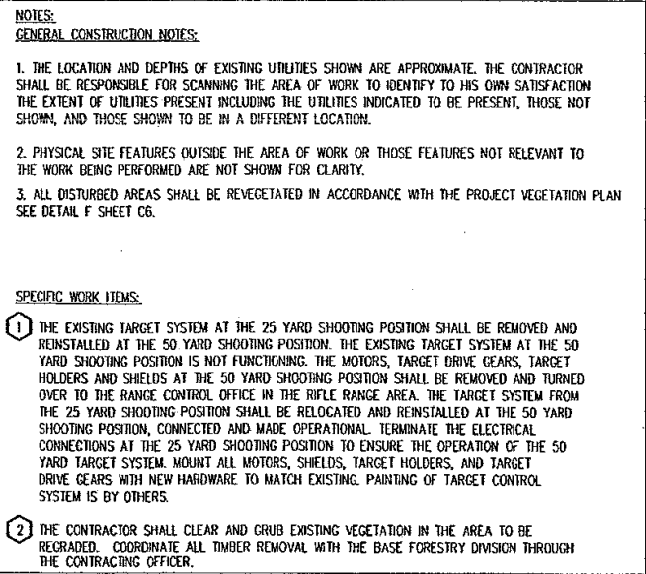


VICINITY MAP - CAMP LEJEUNE, N.C.

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C-2	SMALL ARMS RANGE NEAR SRR-64: EXISTING SITE/DEMOLITION PLAN
C-3	SMALL ARMS RANGE NEAR SRR-64: CONSTRUCTION INSTALLATION PLAN
C-4	SQUARE BAY RANGE, SRR-227, SOTG AREA: EXISTING SITE/DEMOLITION PLAN
C-5	SQUARE BAY RANGE, SRR-227, SOTG AREA: CONSTRUCTION INSTALLATION PLAN
C-6	DETAILS
E1	ELECTRIC SITE PLAN - SMALL ARMS RANGE NEAR SRR-64
E2	ELECTRIC SITE PLAN - SQUARE BAY RANGE, SOTG AREA
E3	ELECTRIC DETAILS

NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION STONE BAY RANGES BULLET TRAPS AT SMALL ARMS RANGE CAMP LEJEUNE, NORTH CAROLINA		PROJECT NO. 100105 DESIGNED BY RBK CHECKED BY RBK APPROVED BY JEL		REV. DATE BY CHK'D/APP'D		REVISIONS	
DEPARTMENT OF THE NAVY NAVAL STATION		Shaw Environmental, Inc.		PROJECT NO. 100105		DESCRIPTION/ISSUE	
SCALE: AS SHOWN		SIZE: D		DELIVERY ORDER NO. 0011		CONSTR. CONTRACT NO. N62470-02-D-3260	
NAVFAC DRAWING NO. 7		SHEET I.D.		C-1			

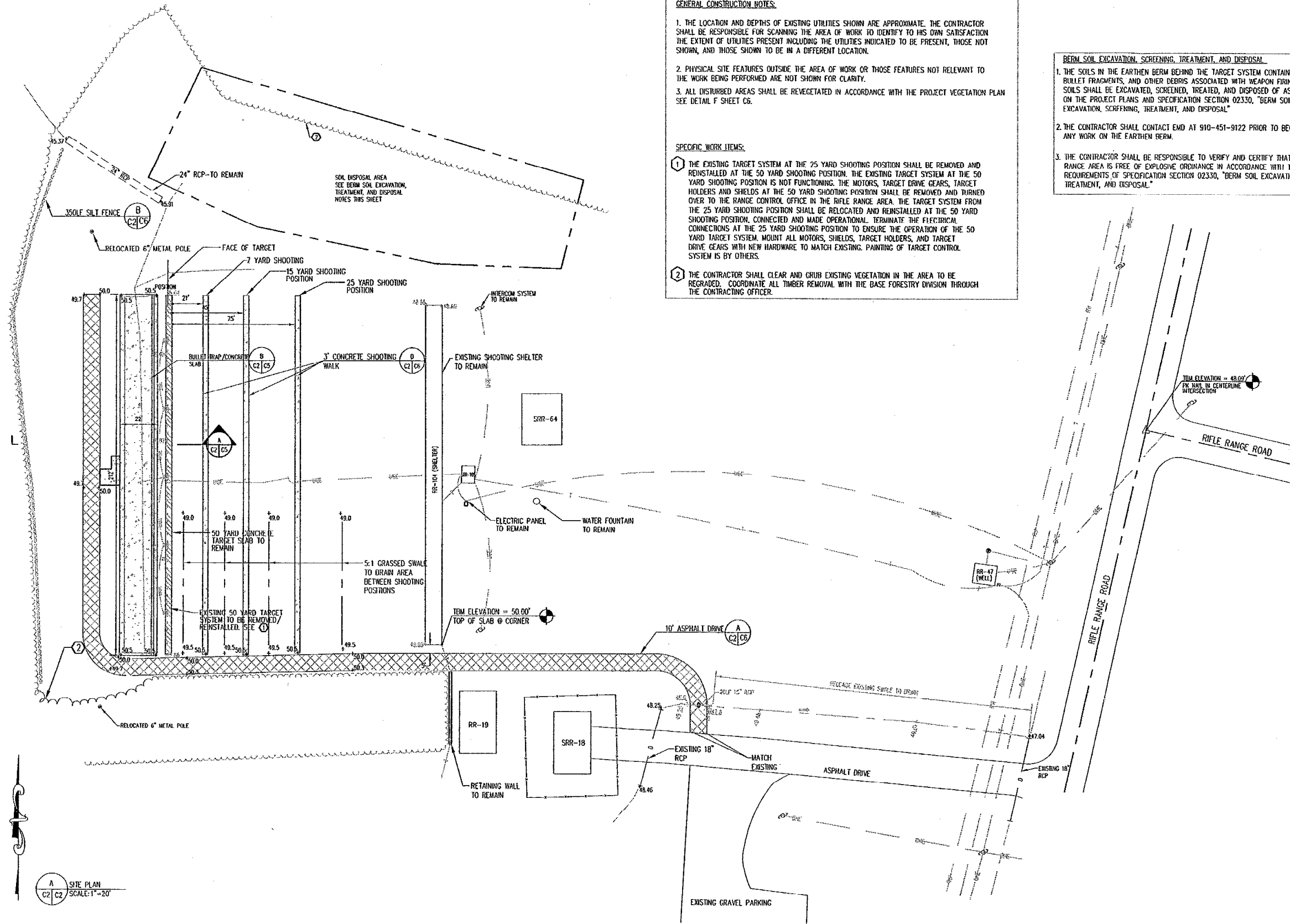
03425AB12



BERM SOIL EXCAVATION, SCREENING, TREATMENT, AND DISPOSAL

1. THE SOILS IN THE EARTHEN BERM BEHIND THE TARGET SYSTEM CONTAINS BULLETS, BULLET FRAGMENTS, AND OTHER DEBRIS ASSOCIATED WITH WEAPON FIRING. THESE SOILS SHALL BE EXCAVATED, SCREENED, TREATED, AND DISPOSED OF AS INDICATED ON THE PROJECT PLANS AND SPECIFICATION SECTION 02330, "BERM SOIL EXCAVATION, SCREENING, TREATMENT, AND DISPOSAL."
2. THE CONTRACTOR SHALL CONTACT EMD AT 910-451-9122 PRIOR TO BEGINNING ANY WORK ON THE EARTHEN BERM.
3. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY AND CERTIFY THAT THE RANGE AREA IS FREE OF EXPLOSIVE ORDNANCE IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATION SECTION 02330, "BERM SOIL EXCAVATION, SCREENING, TREATMENT, AND DISPOSAL."

DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND	
NAVAL STATION		NORFOLK, VIRGINIA	
ATLANTIC DIVISION			
SCALE:		SIZE:	
AS SHOWN		D	
DELIVERY ORDER NO.		PROJECT NO. 100105	
0011			
CONSTR. CONTRACT NO.		CHECKED BY	
N62470-02-D-3260		APPROVED BY	
NAVFAC DRAWING NO.		DESIGNED BY	
?		RBK	
SHEET I.D.		DRAWN BY	
C-2		JEL	
		REV	
		DATE	
		BY	
		CHK'D	
		APPROV	
		DESCRIPTION/ISSUE	
		REVISONS	



NOTES:
GENERAL CONSTRUCTION NOTES:

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION.
2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
3. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN SEE DETAIL F SHEET C6.

SPECIFIC WORK ITEMS:

- 1 THE EXISTING TARGET SYSTEM AT THE 25 YARD SHOOTING POSITION SHALL BE REMOVED AND REINSTALLED AT THE 50 YARD SHOOTING POSITION. THE EXISTING TARGET SYSTEM AT THE 50 YARD SHOOTING POSITION IS NOT FUNCTIONING. THE MOTORS, TARGET DRIVE GEARS, TARGET HOLDERS AND SHIELDS AT THE 50 YARD SHOOTING POSITION SHALL BE REMOVED AND TURNED OVER TO THE RANGE CONTROL OFFICE IN THE RIFLE RANGE AREA. THE TARGET SYSTEM FROM THE 25 YARD SHOOTING POSITION SHALL BE RELOCATED AND REINSTALLED AT THE 50 YARD SHOOTING POSITION. CONNECTED AND MADE OPERATIONAL. TERMINATE THE ELECTRICAL CONNECTIONS AT THE 25 YARD SHOOTING POSITION TO ENSURE THE OPERATION OF THE 50 YARD TARGET SYSTEM. MOUNT ALL MOTORS, SHIELDS, TARGET HOLDERS, AND TARGET DRIVE GEARS WITH NEW HARDWARE TO MATCH EXISTING. PAINTING OF TARGET CONTROL SYSTEM IS BY OTHERS.
- 2 THE CONTRACTOR SHALL CLEAR AND GRUB EXISTING VEGETATION IN THE AREA TO BE REGRADED. COORDINATE ALL TIMBER REMOVAL WITH THE BASE FORESTRY DIVISION THROUGH THE CONTRACTING OFFICER.

BERM SOIL EXCAVATION, SCREENING, TREATMENT, AND DISPOSAL

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DEPARTMENT OF THE NAVY
NAVAL STATION
ATLANTIC DIVISION
STONE BAY RANGE SRR-64
BULLET TRAPS AT SMALL ARMS RANGE
CAMP LEJEUNE, NORTH CAROLINA
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA
CONSTRUCTION INSTALLATION PLAN

SCALE:
AS SHOWN
DELIVERY ORDER NO.
0011
CONSTR. CONTRACT NO.
N62470-02-D-3260
NAVFAC DRAWING NO.
?
SHEET I.D.
C-3

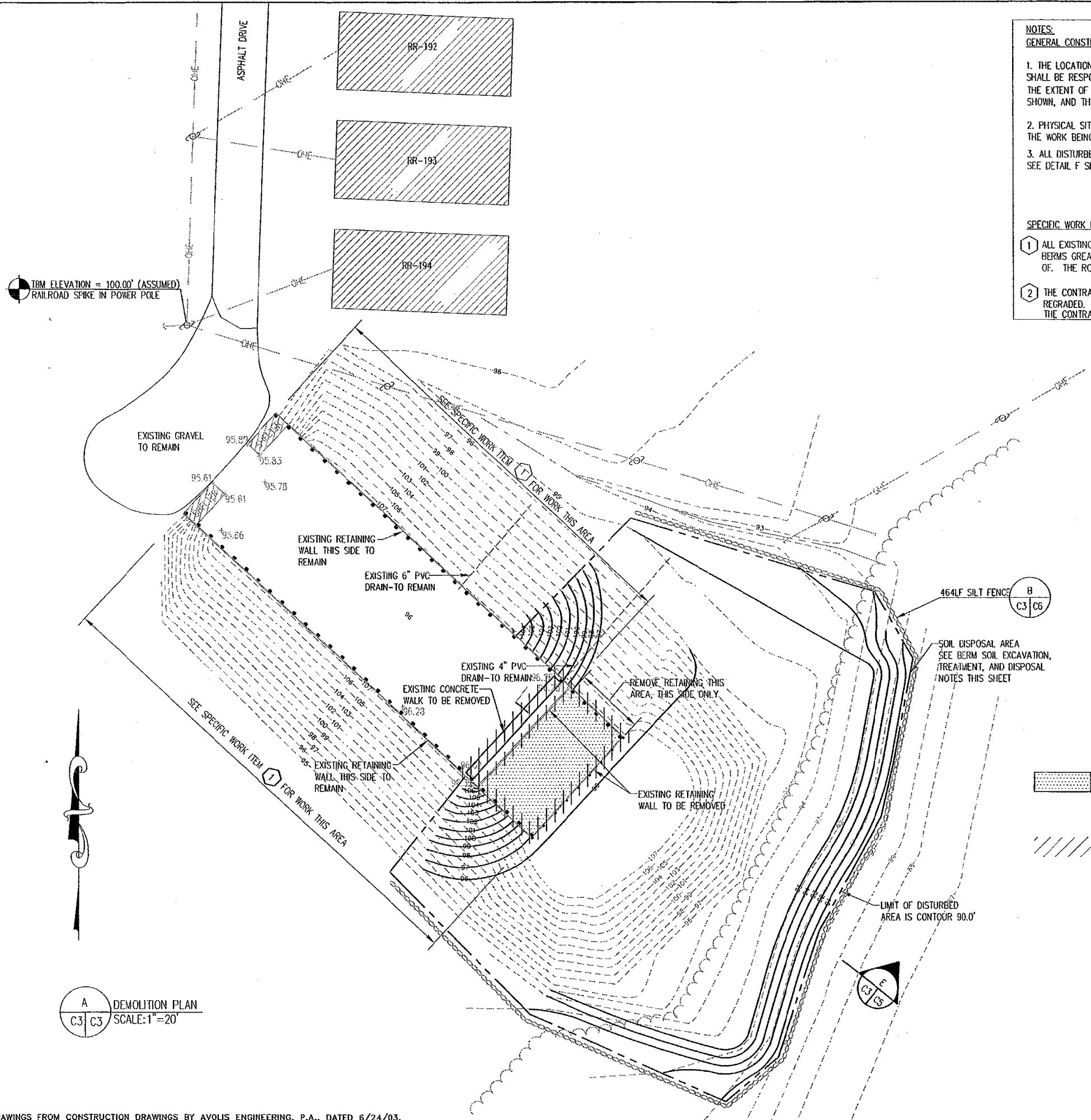
DESIGNED BY RBK
DRAWN BY JEL

CHECKED BY RBK
APPROVED BY

PROJECT NO. 100105
RKB

REV DATE BY
CHK'D APPROV

DESCRIPTION/ISSUE
REVISIONS

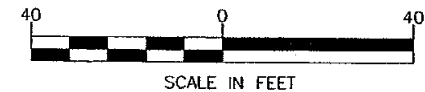


- NOTES:
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 2. PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
 3. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN SEE DETAIL F SHEET C6.
- SPECIFIC WORK ITEMS:
- 1 ALL EXISTING TREE AND BRUSH VEGETATION ON THE TOPS AND SIDE SLOPE AREAS OF THE EXISTING BERMS GREATER THAN 1/2" IN DIAMETER SHALL BE CUT FLUSH WITH THE GROUND LEVEL AND DISPOSED OF. THE ROOT MAT FOR THIS VEGETATION SHALL BE LEFT UNDISTURBED TO PREVENT EROSION.
 - 2 THE CONTRACTOR SHALL CLEAR AND GRUB EXISTING VEGETATION IN THE AREA TO BE REGRADED. COORDINATE ALL TIMBER REMOVAL WITH THE BASE FORESTRY DIVISION THROUGH THE CONTRACTING OFFICER.

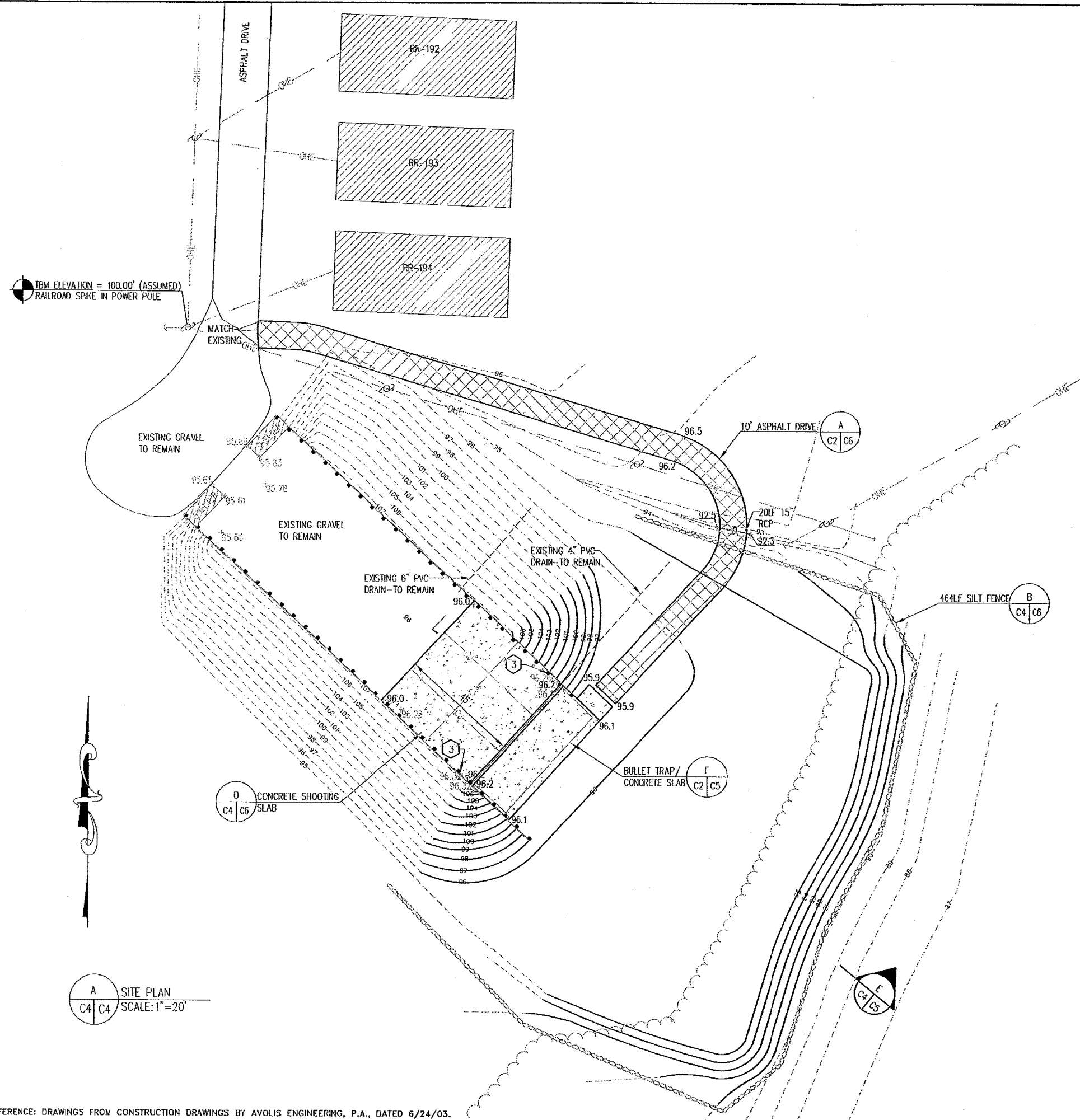
- BERM SOIL EXCAVATION, SCREENING, TREATMENT, AND DISPOSAL
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BERM SOIL REQUIRING SOIL SCREENING/
BULLET REMOVAL

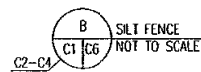
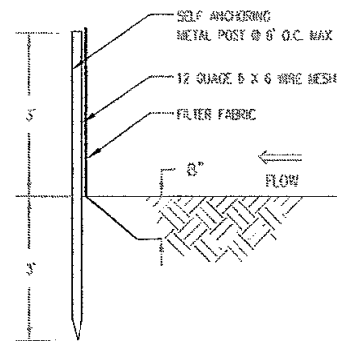
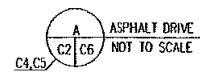
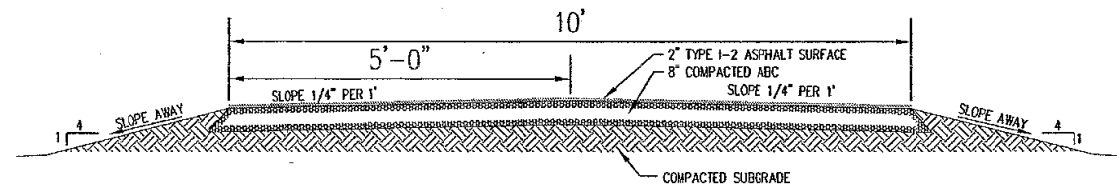
STRUCTURES REQUIRING DEMOLITION



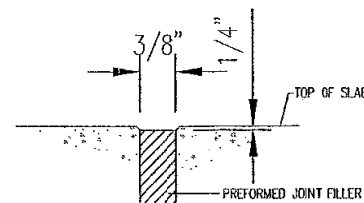
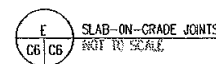
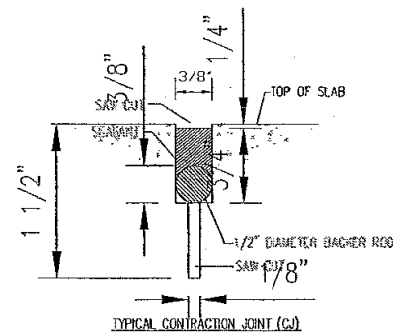
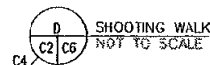
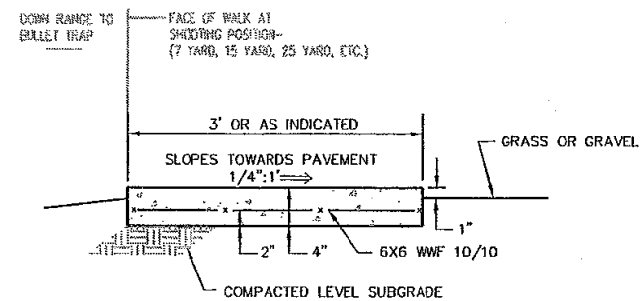
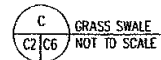
DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND		ATLANTIC DIVISION		NORFOLK, VIRGINIA		PROJECT NO. 100105		REVISIONS	
NAVAL STATION		SQUARE BAY RANGE, SRR-227, SOTG AREA		BULLET TRAPS AT SMALL ARMS RANGE		CAMP LEJUNE, NORTH CAROLINA		CHECKED BY RBK		DATE	
SCALE:		AS SHOWN		SIZE:		D		DESIGNED BY RBK		BY JEL	
DELIVERY ORDER NO.		0011		CONSTR. CONTRACT NO.		N62470-02-D-3260		APPROVED BY		CHK'D/APP'D	
NAVFAC DRAWING NO.		?		SHEET I.D.		C-4		EXISTING SITE/DEMOLITION PLAN			



3. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY AND CERTIFY THAT THE RANGE AREA IS FREE OF EXPLOSIVE ORDNANCE IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATION SECTION 02330, "BERM SOIL EXCAVATION, SCREENING, TREATMENT, AND DISPOSAL."



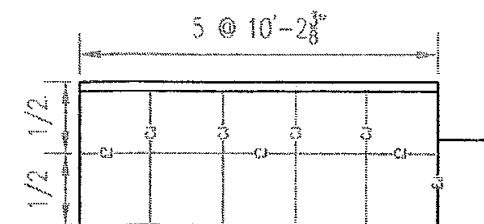
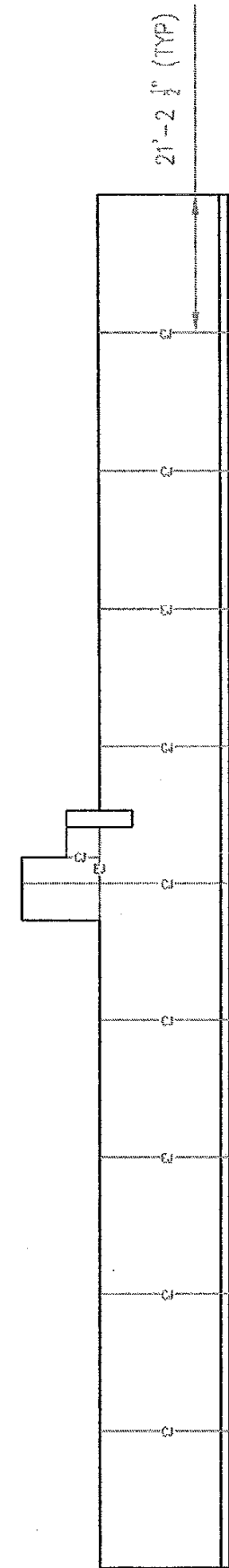
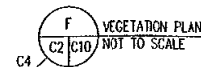
NOTE:
1. VEGETATE ALL SWALES IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN



VEGETATIVE SEEDING
AFTER COMPLETION OF GRADING ACTIVITIES AND THE
CONSTRUCTION OF SWALES, ALL EXPOSED AREAS SHALL
BE SEED TO THE FOLLOWING SPECIFICATIONS:

<u>SEED BED</u>	
LIME	1-TON PER ACRE
FERTILIZER	1/2-TON PER ACRE
<u>SEED</u>	
SEPTEMBER THROUGH APRIL:	
RYE GRAIN	50 LBS PER ACRE
TALL FESCUE	50 LBS PER ACRE
MAY THROUGH AUGUST:	
COMMON BERMUDA	40 LBS PER ACRE

PROCEDURE
STRAW MULCH SHALL BE APPLIED AT A RATE WHICH
WILL ENSURE APPROXIMATELY 75% COVERAGE OF THE SEED
AREA. THE STRAW AND SOWN SEED WILL BE LIGHTLY
DISCED INTO THE BED TO GIVE IT FURTHER RESISTANCE
TO BLOWING AND WASHING.
THE CONTRACTOR SHALL GUARANTEE A FULL STAND OF
GRASS OVER THE ENTIRE DISTURBED AREA. IF NECESSARY
THE CONTRACTOR WILL WET DOWN THE AREAS TO ASSIST
IN SEED GERMINATION OR AID IN GROWTH IN TIMES OF
EXCESSIVELY DRY WEATHER. A STAND OF GRASS WILL BE
CONSIDERED ACCEPTABLE WHEN THE ENTIRE STAND OF
GRASS IS AT LEAST FOUR INCHES HIGH AND HAS
ACHIEVED AT LEAST 95% COVERAGE OF DISTURBED
AREAS. RESEEDING WILL BE REQUIRED AS NECESSARY BY
THE CONTRACTOR TO OBTAIN THE SPECIFIED STAND OF GRASS.

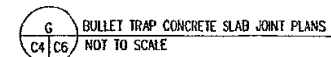


SLAB JOINT PLAN FOR RANGE SSR-227
NOT TO SCALE


LEGEND

EJ = EXPANSION JOINT - SEE DETAIL E, THIS SHEET

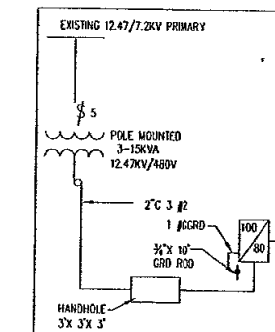
CJ = CONTRACTION JOINT - SEE DETAIL C, THIS SHEET



REFERENCE: DRAWINGS FROM CONSTRUCTION DRAWINGS BY AVOLIS ENGINEERING, P.A., DATED 6/24/03.

DEPARTMENT OF THE NAVY NAVAL STATION		NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA	
ATLANTIC DIVISION		 Shaw	
SCALE: AS SHOWN		SIZE: D	
DELIVERY ORDER NO. 0011		PROJECT NO. 100105	
CONSTR. CONTRACT NO. N62470-02-D-3260		DESIGNED BY RBK DRAWN BY JEL	
NAVFAC DRAWING NO. ?		CHECKED BY RBK APPROVED BY	
SHEET I.D. C-6		REV. DATE BY CHK'D APPROV'D	
		DESCRIPTION/ISSUE	
		REVISIONS	

REFERENCE: DRAWINGS FROM CONSTRUCTION DRAWINGS BY AVOLIS ENGINEERING, P.A., DATED 6/24/03.



2 ELECTRIC RISER DIAGRAM
E1|E1 NOT TO SCALE

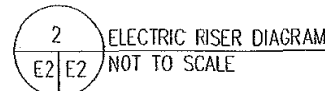
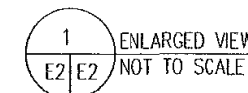
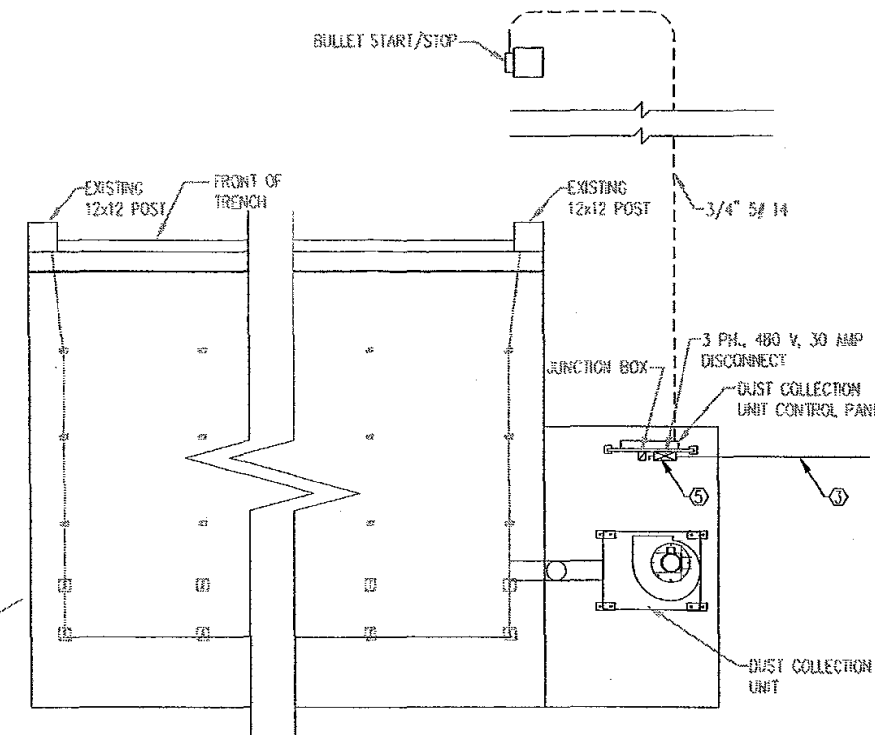
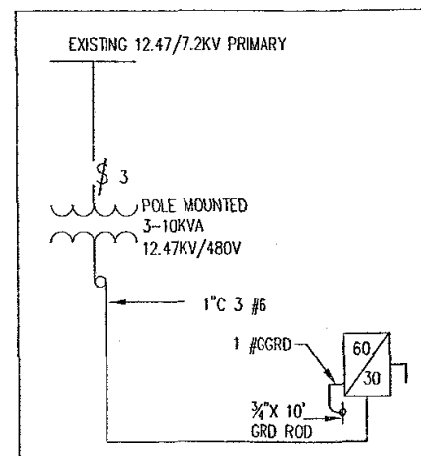
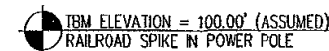
**ELECTRICAL DESIGN
EN-TECH ENGINEERING, P.A.**
P.O. BOX 11527, GOLDSBORO, NC 27532
(919)778-9064, FAX (919)778-9069

1. THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION.
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ELECTRICAL DETAILS:

- 1) PROVIDE NEW 45 FOOT, CLASS 3 POLE COMPLETE WITH ACCESSORIES AND 3-15 KVA THREE PHASE TRANSFORMERS TO, PROVIDE 480 VOLTS, 3 PHASE, 3 WIRE SECONDARY, PER DETAIL 1 SHEET E3
- 2) 2" RIGID STEEL CONDUIT RISER WITH 3 #6 CU WIRES PER DETAIL 2, SHEET E3
- 3) 2" PVC SCHEDULE 40 WITH 3- #6 CU WIRES
- 4) HANDHOLE, 3'X3'X3' PER DETAIL 3, SHEET E3
- 5) DISCONNECT SWITCH, 100 AMP, 480 VOLT, 3 POLE, NEMA 3R, SERVICE ENTRANCE RATED, FUSIBLE. PROVIDE 3-80 AMP, DUAL ELEMENT FUSES MOUNT ON RACK FURNISHED BY BULLET TRAP MANUFACTURER.

DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND	
NAVAL STATION		NORFOLK, VIRGINIA	
ATLANTIC DIVISION			
STONE BAY RANGES			
BULLET TRAPS AT SMALL ARMS RANGE			
CAMP LEJEUNE, NORTH CAROLINA			
ELECTRICAL SITE PLAN			
SCALE: AS SHOWN		SIZE: D	
DELIVERY ORDER NO. 0011			
CONSTR. CONTRACT NO. N62470-02-D-3260			
NAVFAC DRAWING NO. ?			
SHEET I.D. E-1			

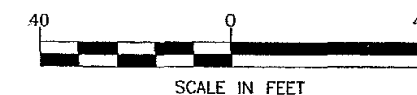


NOTES:
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ELECTRICAL DETAILS:

- 1 PROVIDE NEW 3-10KVA SINGLE PHASE TRANSFORMERS TO PROVIDE 480 VOLT, 3 PHASE, 3 WIRE SECONDARY, PER DETAIL 1, SHEET E3
- 2 1" RIGID STEEL CONDUIT RISER WITH 3 #6 CU WIRES PER DETAIL 2, SHEET E3
- 3 1" PVC SCHEDULE 40 WITH 3 #6 CU WIRES
- 4 EXTEND EXISTING NUTRAL TO NEW TRANSFORMERS
- 5 DISCONNECT SWITCH 60AMP, 480 VOLT, 3 POLE, NEMA 3R, SERVICE ENTRANCE RATED, FUSIBLE. PROVIDE 3-30 AMP, DUAL ELEMENT FUSES MOUNTED ON RACK FURNISHED BY BULLET TRAP MANUFACTURER.

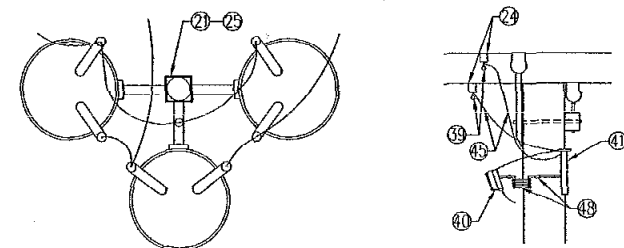
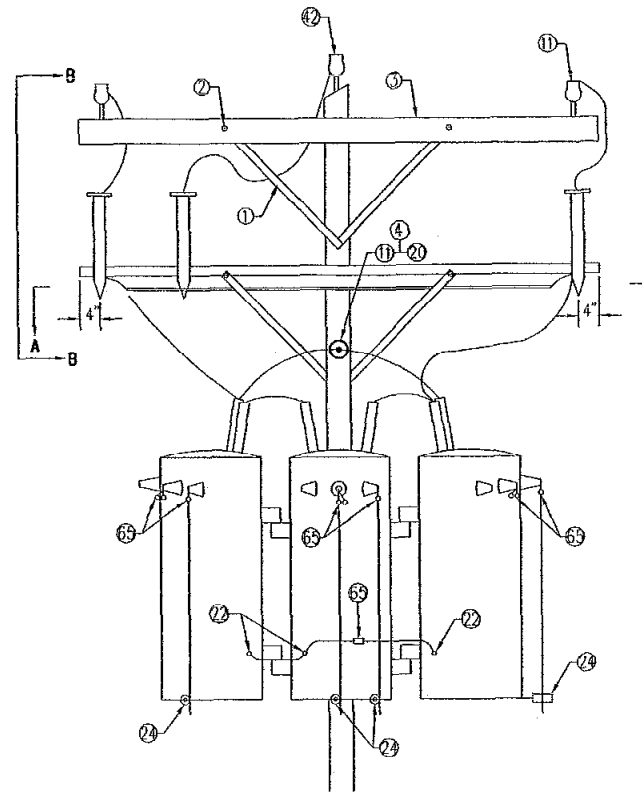


ELECTRICAL DESIGN
EN-TECH ENGINEERING, P.A.
P.O. BOX 11527, GOLDSBORS, NC 27532
(919)778-9064, FAX (919)778-9069

A
E2 | E2 ELECTRICAL SITE PLAN
SCALE: 1"=20'

PLOT DATE: 10/06/03
FORMAT REVISION

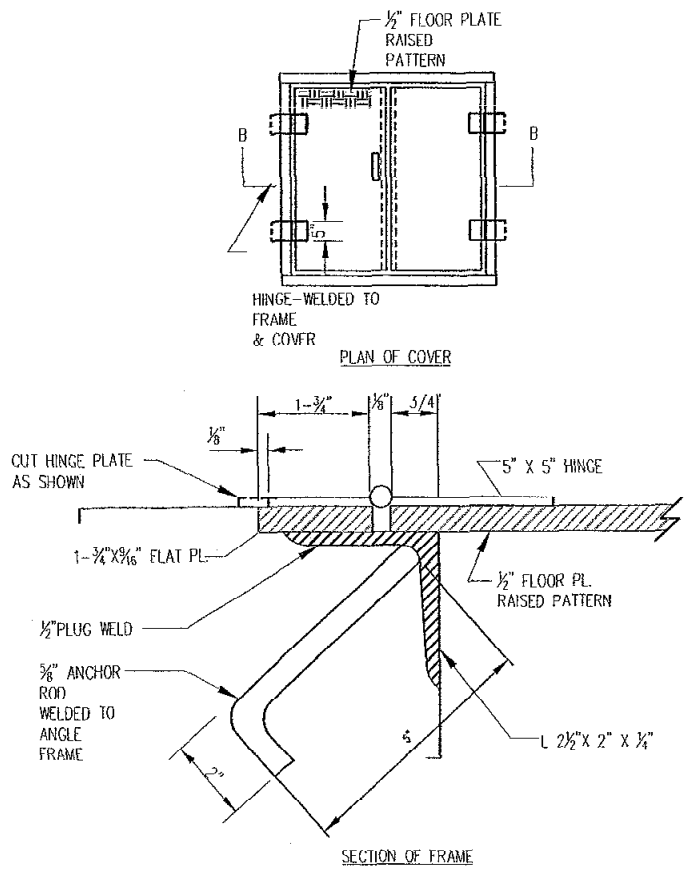
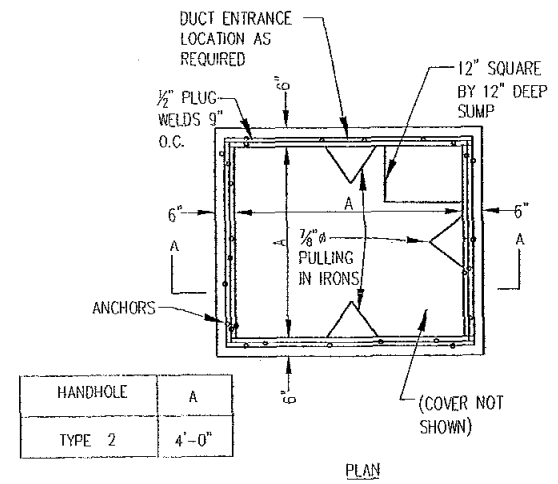
REFERENCE: DRAWINGS FROM CONSTRUCTION DRAWINGS BY AYOLIS ENGINEERING, P.A., DATED 6/24/03.



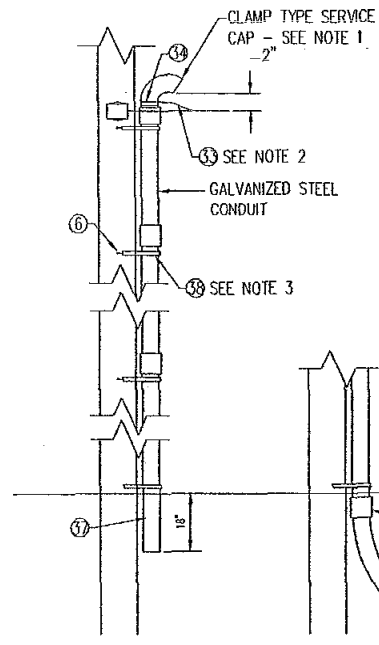
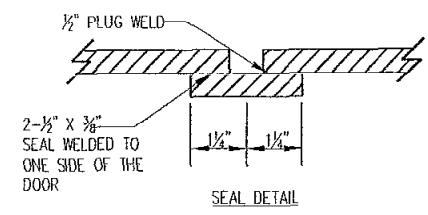
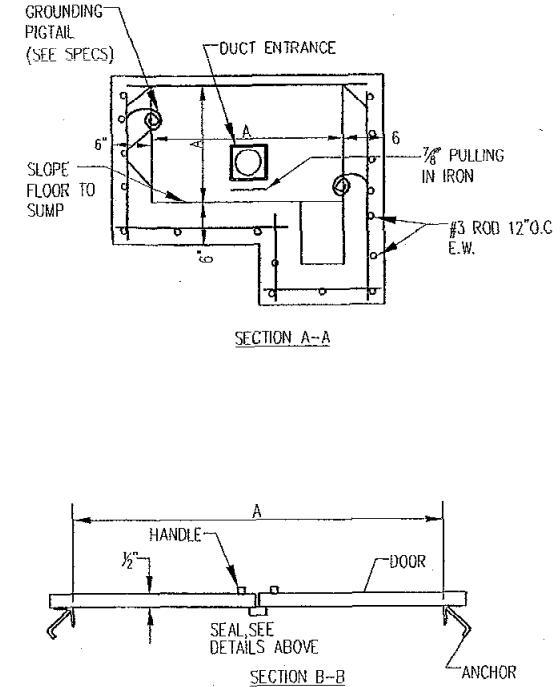
- POLE LINE MATERIAL LIST**
- 1-FLAT STEEL BRACE (TWO PIECES)
 - 2-MACHINE BOLT, 1/2" X LENGTH NEEDED WITH WASHER, NUT AND LOCKWASHER
 - 3-8' WOOD CROSSARM
 - 4-MACHINE BOLT, 1/2" X LENGTH NEEDED WITH WASHER, NUT AND LOCKWASHER
 - 5-LAGScrew, 1/2" X 4"
 - 6-PIN INSULATOR
 - 7-STEEL ANGLE PIN
 - 8-CLUSTER MOUNTING BRACKET, STEEL
 - 9-TRANSFORMER GROUNDING CONNECTION
 - 10-STIRRUP
 - 11-SECONDARY LEAD SUPPORT BRACKET
 - 12-ADAPTER PLATE FOR CLUSTER MOUNTING
 - 13-#4 WP CU. SOFT DRAWN GROUND WIRE
 - 14-GROUND CLAMP
 - 15-CONDUIT COUPLING
 - 16-CONDUIT BEND
 - 17-PERFORATED STRAPPING, 1 1/2" WIDE
 - 18-HOT LINE CLAMP
 - 19-FUSED CUTOFF, AS SPECIFIED
 - 20-SURGE ARRESTER, AS SPECIFIED
 - 21-POLE TOP PIN
 - 22-WIRE, #4 WP CU., (UNLESS OTHERWISE SPECIFIED) SOFT DRAWN
 - 23-MOUNTING BRACKET
 - 24-CONNECTOR

- NOTES**
- THIS DIMENSION SHALL BE MEASURED ON POCKET BUSHING TYPE TRANSFORMER FROM LOWEST ENERGIZED POINT ON LEAD OR BUSHING.
 - WHEN TRANSFORMER PROVIDES UNDERGROUND SERVICES, SIZE SECONDARY OR SERVICE CONDUCTORS AS INDICATED.
 - MODIFY CONNECTIONS AS REQUIRED TO ACCOMMODATE TRANSFORMERS WITH PRIMARY BUSHING ARRANGEMENTS OTHER THAN SHOWN.

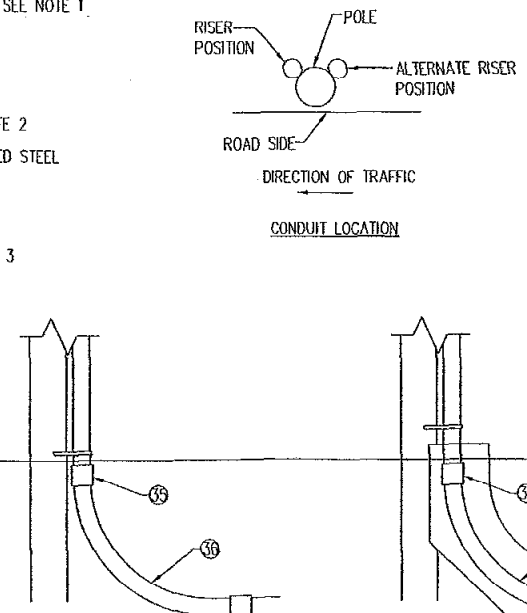
1 TRANSFORMER MOUNTING
E1 E3 NOT TO SCALE



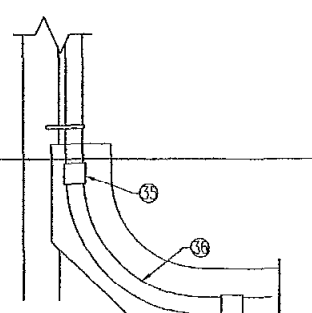
3 HANDHOLE
E1 E3 NOT TO SCALE



DIRECT BURIED CABLE



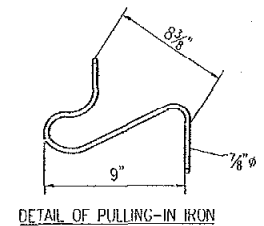
DIRECT BURIED CONDUIT



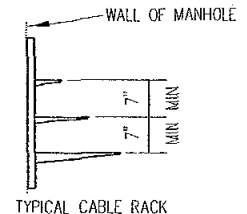
CONCRETE ENCASED CONDUIT

- NOTES**
- ON CONDUIT RISER FOR PRIMARY CIRCUITS, ELIMINATE SERVICE CAP AND PROVIDE GROUNDING TYPE INSULATION BUSHING
 - CONNECT TO GROUNDED NEUTRAL OR PROVIDE GROUND PER SPECIFICATIONS.
 - SPACE STRAPS AT MAXIMUM OF 4' INTERVALS.

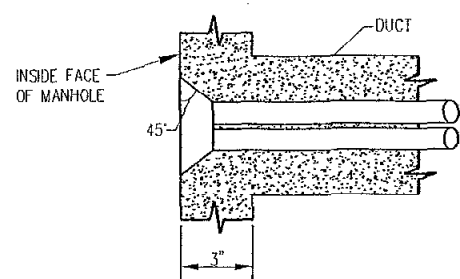
2 SERVICE CONDUIT RISER
E1 E3 NOT TO SCALE



DETAIL OF PULLING-IN IRON



TYPICAL CABLE RACK



TYPICAL DUCT ENTRANCE

4 HANDHOLE DETAILS
E1 E3 NOT TO SCALE

ELECTRICAL DESIGN
EN-TECH ENGINEERING, P.A.
P.O. BOX 11527, GOLDSBORO, NC 27532
(919)778-9064, FAX (919)778-9069



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
STONE BAY RANGES
BULLET TRAPS AT SMALL ARMS RANGE
CAMP LEJEUNE, NORTH CAROLINA

DESIGNED BY JEL
CHECKED BY REK
APPROVED BY
PROJECT NO. 100105
REK
BY CHK'D APR'04
REVISIONS

SCALE: AS SHOWN
DELIVERY ORDER NO. 0011
CONSTR. CONTRACT NO. N62470-02-D-3260
NAVFAC DRAWING NO. 2
SHEET I.D.
E-3

APPENDIX A

Site Specific Health & Safety Plan Amendment Documentation

Project Name: MCB-Camp Lejeune,
Stone Bay Ranges SRR-64 and SRR-227

Project No. 100105

Amendment No. 18

Date: 12/12/03

The Amendment Addresses the Following Sections:

Section 2.2	Scope of Work
Section 4.1	Chemical Hazards
Section 4.3	Physical Hazards
Section 6.0	Protective Equipment
Section 8.0	Air Monitoring
Section 11.0	Medical Surveillance

Task(s) Amendment Affects:

Additional work was awarded including site demolition and construction activities in preparation of bullet trap installations.

Additional work also includes screening soils in berms at Stone Bay Ranges SRR-64 and SRR-227 and chemical stabilization of lead-contaminated soil utilizing Tri-Sodium Phosphate (TSP) granular.

Reason For Amendment:

The primary objective of this project at the Stone Bay Ranges at Camp Lejeune is to remove and recover bullet metals from site soils using a screening operation, and then chemically stabilize the and reduce the mobility of lead present in the screened soils for re-use on site as needed. This is being accomplished as part of the range management program to minimize the potential for environmental releases at the small arm ranges. Recovered bullet metals will be shipped to an off-site recycling facility. The soil will be physically screened, chemically stabilized on-site and used as backfill material during construction of the upgraded range berms.

Additional work also includes demolition at SRR-64, consisting primarily of the four existing concrete shooting lanes. Prior to demolition these concrete areas will be either vacuumed or pressure washed to remove any residual lead. Based on sample results, the demolished concrete will be properly disposed of, or recycled. Demolition of the shooting lanes will then occur using the excavator equipped with a hydraulic hoe ram. The front-end loader will assist in removing the debris to the adjacent staging area until final off-site transportation and disposal arrangements can be finalized.

Amendment:

Section 2.2: Scope of Work

Additional work awarded consists of the following:

- site construction and demolition activities in preparation of bullet trap installations
- screening soils to remove and separate of bullet fragments
- chemical stabilization of lead-contaminated soil

Section 4.1: Chemical Hazards

Chemical hazards on this portion of the project are consistent with those previously discussed in the original HASP, consisting primarily of lead. Demolition of concrete may generate dusts contaminated with silica, and TSP will be utilized during soil treatment operations.

Summary of Site Contaminants

CHEMICAL	EXPOSURE ROUTES	PEL/TLV	HEALTH HAZARDS/ PHYSICAL HAZARDS
Lead	Inhalation, ingestion	0.050 mg/m ³ TWA	<ul style="list-style-type: none">• Weakness, insomnia; loss of appetite, loss of weight, abdominal pain; anemia; tremors; weakness of wrists/ankles; kidney damage; low blood pressure• Incompatible with strong oxidizers, hydrogen peroxide and acids.
Silica	Inhalation, ingestion	crystobalite 0.05 mg/m ³ quartz 0.1 mg/m ³ tridymite 0.05 mg/m ³ tripoli 0.1 mg/m ³	<ul style="list-style-type: none">• An eye and respiratory irritant; coughing, dyspnea, wheezing, decreased pulmonary; progressive respiratory function; silicosis; a carcinogen• Reacts with strong oxidizers, fluorine, oxygen difluoride, chlorine trifluoride, ammonia, acetylene, hydrogen peroxide, manganese trioxide
Tri-sodium phosphate	Inhalation, Ingestion Contact	10mg/m ³ total; 3mg/m ³ respirable	<ul style="list-style-type: none">• Signs and symptoms of exposure to this material through breathing, swallowing, and skin contact may include cough, difficult breathing, irritation/redness/burning of skin, eyes and respiratory system• Avoid contact with aluminum, moisture, and strong mineral acids.

Section 4.3: Physical Hazards

Physical hazards on this portion of the site include heavy equipment operation, screening equipment, demolition, underground and overhead utilities.

- Review attached Activity Hazard Analysis prior to beginning operations.

- Removal/disconnecting of power sources that may be present will require adherence to HS-315, Control of Hazardous Energy Sources.
- Isolate equipment swing areas and maintain safe distances to eliminate potential for injury from flying debris during operation of the hoe-ram.
- Identify over-head hazards associated with operation of screening equipment outfalls and isolate these areas.
- All above and underground utilities shall be identified and marked by the appropriate authority, as required by HS-308, prior to the initiation of intrusive activities. Utility mark-out documentation shall be completed prior to beginning all demolition activities.

Section 6.0: Personal Protective Equipment:

PPE to be utilized will consist of the following:

Task	Initial PPE Level	Upgrade PPE Level	Skin Protection	Respiratory Protection	Other PPE
Demolition activities including decontamination/dust removal and concrete removal	Level C*	Not anticipated	Leather-work gloves, with inner Nitrile gloves, Tyvek® coveralls, and latex boot covers	Full face air purifying respirator	Hard-hat, steel-toe work boots, hearing protection >85 dBA.
Berm soil screening activities including handling separated fragments	Level C*	Not Anticipated	Leather-work gloves, with inner Nitrile gloves, Tyvek® coveralls, and latex boot covers	Full face air purifying respirator	Hard-hat, steel-toe work boots, hearing protection >85 dBA.
Soil Treatment	Level C*	Not Anticipated	Leather-work gloves, with inner Nitrile gloves, Tyvek® coveralls, and latex boot covers	Full face air purifying respirator	Hard-hat, steel-toe work boots, hearing protection >85 dBA.
Concrete Pad installation for bullet trap	Level D	Not Anticipated	Leather work gloves	None	Hard-hat, steel-toe work boots, eye protection and hearing protection >85 dBA.
Concrete Pad installation for dust collection system	Level D	Not Anticipated	Leather work gloves	None	Hard-hat, steel-toe work boots, eye protection and hearing protection >85 dBA.

Task	Initial PPE Level	Upgrade PPE Level	Skin Protection	Respiratory Protection	Other PPE
Equipment Decontamination	Modified Level D	Not Anticipated	PVC rain suit or poly-coated Tyvek® coverall, inner latex sample gloves, outer nitrile gloves, latex boot covers, goggles/ face shield when in contact with liquid contamination.	None	Hard-hat, steel-toe work boots and hearing protection >85 dBA. Metatarsal and shin guards are required when operating a pressure washer.

* If sampling indicates no lead is present after power-washing/decontamination of concrete, PPE may be downgraded to Modified Level "D" during removal of concrete. If sampling indicates lead levels are below established guidelines, PPE may be downgraded to Modified Level 'D', based on review and approval by program CIH.

Section 8.0 Air Monitoring:

Air monitoring will be conducted in order to characterize personnel exposures and fugitive emissions from site contaminants and treatment chemicals. The principle contaminant of concern is lead. However, concrete demolition may generate dusts containing silica and mixing operations have potential to generate dusts containing TSP.

A Data RAM will be used to monitor for airborne particulate during demolition, screening activities including handling bullet fragments, and soil treatment, at the site perimeter.

Integrated air sampling for personnel exposure characterization to lead will be performed during demolition activities and soil screening activities.

Samples will be collected on the most at risk Recovery Technicians (RT) for the first three days of demolition and screening activities. Sampling and analysis protocols established in NIOSH method 7300 – Lead shall be followed. The pumps will be pre- and post-calibrated. The samples shall be submitted to a laboratory accredited by the American Industrial Hygiene Association for analysis of lead concentration.

Monitoring Device	Monitoring Location/ Personnel	Monitoring Frequency	Action Level	Action
Data RAM	Perimeter of EZ during concrete decon and demolition activities; during soil screening and handling bullet fragments; and soil treatment, to monitor migration of contaminated and nuisance dusts	Initially and then periodically at the discretion of the HSC	$<5 \text{ mg/m}^3$ $\geq 5 - 15 \text{ mg/m}^3$ $>15 \text{ mg/m}^3$	Implement dust control Evaluate dust control measures. Contact the Health and Safety Coordinator Stop work and re-evaluate. Contact Health and Safety Coordinator
Air Sampling Pump Lead	Breathing Zone/ Recovery Technician (RT)	Sample a minimum of 2 workers in the EZ for the first three days of concrete decontamination and demolition activities.	$<0.05 \text{ mg/m}^3$ $0.05-0.5 \text{ mg/m}^3$ (TWA) $>0.50 \text{ mg/m}^3$ (TWA)	Modified Level D Engineering controls and Level C Level B
	Breathing Zone/Recovery Technician (RT)	Sample a minimum of 2 workers in the EZ for the first three days of soil screening activities and handling bullet fragments	$<0.05 \text{ mg/m}^3$ $0.05-0.5 \text{ mg/m}^3$ (TWA) $>0.50 \text{ mg/m}^3$ (TWA)	Modified Level D Engineering controls and Level C Level B

Section 11.0 Medical Surveillance:

All personnel performing work on screening, demolition, and treatment activities will receive pre and post project blood lead testing meeting the requirements of 29CFR1926.62. In the event of an un-protected exposure to lead dust or signs of over-exposure, personnel may be required to submit to blood lead testing during the course of the project.

Completed by: Kym Edelman,
Health and Safety Coordinator

Approved by: David Mummert, CIH
Health and Safety Manager

By signing this document, I am stating that I have read and understand the Site Health and Safety Plan Amendment No. 18 for personnel and visitors entering MCB-Camp Lejeune; Stone Bay Ranges SRR-64 and SRR-227

[illegible]

ATTACHMENT 2

Material Safety Data Sheets

- 1) Lead
- 2) Silica
- 3) Tri-Sodium Phosphate

ATTACHMENT 3

Activity Hazard Analysis

ACTIVITY HAZARD ANALYSIS FOR DEMOLITION

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Walls and Floors	Struck by/ Against Heavy Equipment, Flying Debris, Protruding Objects	<ul style="list-style-type: none"> • Wear reflective warning vests when exposed to vehicular traffic • Isolate equipment swing areas • Make eye contact with operators before approaching equipment • Barricade or enclose the demolition area • Restrict entry to the work area to authorized personnel during demolition activities • Wear hard hats, safety glasses with side shields, and steel-toe safety boots • Understand and review hand signals • Cease operations for electrical storms, high winds, severe weather 	Warning vests, Hard hat, Safety glasses	
	Slips, Trips, Falls	<ul style="list-style-type: none"> • Clear, walkways of equipment, vegetation, excavated material, tools and debris • Mark, identify, or barricade other obstructions • Evaluate fall hazards above 4 ft.; use fall protection equipment (harness/lanyard), standard guardrails or other fall protection systems when working on elevated platforms above 6 ft. • Use heavy duty industrial <input type="checkbox"/> (type IA) ladders • Only trained operators are permitted to use aerial lifts • Tie-off all straight/extension ladders or manually hold by co-worker at base • Halt roof, exterior scaffold work in high winds, severe weather 		
	Handling Heavy Objects	<ul style="list-style-type: none"> • Observe proper lifting techniques • Obey sensible lifting limits (60 lb. maximum per person manual lifting) • Use mechanical lifting equipment (hand carts, trucks) to move large, awkward loads • Avoid carrying heavy objects above shoulder level • Avoid actions/activities that contribute to overexertion 		

ACTIVITY HAZARD ANALYSIS FOR DEMOLITION

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Walls and Floors (Continued)		<ul style="list-style-type: none"> • Warm up muscles before engaging in manual lifting activities • Review lifting posture/techniques regularly at safety meetings 		
	Fire/ Explosion	<ul style="list-style-type: none"> • Eliminate sources of ignition from the work area • Prohibit smoking • Provide ABC (or equivalent) fire extinguishers for all work and flammable storage areas, fuel powered generators and compressors • Store flammable liquids in well ventilated areas • Prohibit storage, transfer of flammable liquids in plastic containers 		
	Premature structural Collapse	<ul style="list-style-type: none"> • Barricade or enclose the demolition area • Restrict entry to the work area to authorized personnel during demolition activities • Wear hard hats, safety glasses with side shields, and steel-toe safety boots • Understand and review posted hand signals 	Warning vests, Hard hat, Safety glasses	
	Electrical Shock	<ul style="list-style-type: none"> • De-energize or shut off utility lines at their source before work begins • Use double insulated or properly grounded electric power-operated tools • Maintain tools in a safe condition • Provide an equipment-grounding conductor program or employ ground-fault circuit interrupters • Use qualified electricians to hook up electrical circuits • Inspect all extension cords daily for structural integrity, ground continuity, and damaged insulation • Cover or elevate electric wire or flexible cord passing through work areas to protect from damage • Keep all plugs and receptacles out of water • Use approved water-proof, weather-proof type if 	Lockout/Tagout Devices	Voltage Meter or <input type="checkbox"/> Tic <input type="checkbox"/> Tracer

ACTIVITY HAZARD ANALYSIS FOR DEMOLITION

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Walls and Floors (cont'd)		<p>exposure to moisture is likely</p> <ul style="list-style-type: none"> Inspect all electrical power circuits prior to commencing work Follow Lockout-Tagout procedures in accordance with Shaw E&I Health and Safety Procedures #HS315 		
	Sharp Objects	<ul style="list-style-type: none"> Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp edges or objects Maintain all hand and power tools in a safe condition 	Leather gloves	
	High Noise Levels	<ul style="list-style-type: none"> Use hearing protection when exposed to excessive noise levels (greater than 85 dBA over an 8-hour work period) Assess noise level with sound level meter if possibility exists that level may exceed 85dBA TWA 	Hearing protection	
	Inhalation and Contact with Hazardous Substances	<ul style="list-style-type: none"> Provide workers proper skin, eye and respiratory protection based on the exposure hazards present Review hazardous properties of site contaminants with workers before operations begin Monitor breathing zone air to determine levels of contaminants Dampen debris using water spray to prevent fugitive dust emissions that may contain silica and lead Utilize HEPA vacuums to clean dust 	Level "C" PPE as outlined in this addendum.	Data RAM, Personal Sample Pumps
	Sharp Objects	<ul style="list-style-type: none"> Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp edges or objects Maintain all hand and power tools in a safe condition Keep guards in place during use 	Leather gloves	

ACTIVITY HAZARD ANALYSIS FOR DEMOLITION

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Equipment Required		Inspection Requirements	Training Requirements	
<ul style="list-style-type: none"> Excavator equipped with Hoe-Ram Loader Powered Hand Tools Miscellaneous Hand Tools Data RAM Personal Pump Hose/Spray Nozzle Shop Vacuum equipped with HEPA filters 		<ul style="list-style-type: none"> Daily equipment inspections as per manufacturer's requirements demolition inspection/permits daily inspection of cords Inspection of all emergency equipment (ie. First Aid Kits, Fire Extinguishers) 	<ul style="list-style-type: none"> Review AHA with all site personnel Review site specific health and safety plan. Review operations/safety manuals for all equipment utilized Review site specific chemical hazards Review Shaw Procedures: HS 308 Utility Contact Prevention; HS 315 Control of Energy Sources; HS 402 Hearing Conservation 	

ACTIVITY HAZARD ANALYSIS FOR INSTALLATION OF CONCRETE PAD				
Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Installation of Concrete Pad	Slips, Trips, Falls	<ul style="list-style-type: none"> Clear walkways work areas of equipment, tools, vegetation and debris Exit equipment slowly and maintain three point contact Mark, identify, or barricade other obstructions 		
	Struck By/ Against Heavy Equipment	<ul style="list-style-type: none"> Wear reflective warning vests when exposed to vehicular traffic Isolate equipment swing areas Make eye contact with operators before approaching equipment Understand and review hand signals Follow hand signals of ground workers for equipment manipulation when placing/loading equipment into bucket. 	Warning vests, hard hat, safety glasses and steel toe work boots	
	Inhalation and Contact with Concrete Dust	<ul style="list-style-type: none"> Provide workers proper skin and eye protection based on the exposure hazards present Review hazardous properties of concrete contaminants with workers before operations begin If concrete get on skin or clothing, wash area immediately Implement dust control measures to prevent inhalation of silica during mixing of concrete 	Nitrile gloves. Full-face shield as necessary when splash hazards are present	Data RAM
	Handling Heavy Objects	<ul style="list-style-type: none"> Observe proper lifting techniques Obey sensible lifting limits (60 lb. Maximum per person manual lifting) Use mechanical lifting equipment (hand carts, trucks) to move large, awkward loads Avoid carrying heavy objects above shoulder level Avoid manual lifting/carrying tasks 		
	Sharp Objects (rebar)	<ul style="list-style-type: none"> Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp edges or objects Protect exposed ends of rebar with end-caps 	Leather gloves	
	High Noise Levels	<ul style="list-style-type: none"> Use hearing protection when exposed to excessive noise levels (greater than 85 dBA over an 8-hour work period) 	Hearing protection	

ACTIVITY HAZARD ANALYSIS FOR INSTALLATION OF CONCRETE PAD

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
	Strains and Sprains	<ul style="list-style-type: none"> • Use long-handled tool whenever possible for the form work • Use knee pads when necessary 	Knee-pads as necessary	
Installation of Concrete Pad (continued)	High/Low Ambient Temperature	<ul style="list-style-type: none"> • Provide fluids to prevent worker dehydration • Monitor for heat/cold stress in accordance with Shaw Health and Safety Procedures HS400, HS401 	Insulated Clothing (subject to ambient temperature)	Meteorological Equipment
EQUIPMENT REQUIRED		INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS	
<ul style="list-style-type: none"> • Concrete truck • Rebar • Rebar End Caps • Hand tools • Data RAM 		<ul style="list-style-type: none"> • Daily equipment inspections as per manufacturers requirements • Inspection of all emergency equipment (i.e.: first aid kits, fire extinguishers) 	<ul style="list-style-type: none"> • Review AHA with all task personnel • Review Site Specific Health and Safety Plan. • Review operations/safety manuals for all equipment utilized 	

ACTIVITY HAZARD ANALYSIS FOR SOIL SCREENING OPERATIONS

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Inspection of Screening Equipment	Moving Machinery	<ul style="list-style-type: none"> Inspect fluid levels daily: use proper fuel for operating equipment Check moving parts, belts etc., are free of debris before equipment startup Ensure proper guarding of moving parts and pinch points 		
	Fire/ Explosion	<ul style="list-style-type: none"> Eliminate sources of ignition from the work area Prohibit smoking Provide ABC (or equivalent) fire extinguishers in all work, flammable storage areas and with fuel powered generators and compressors Store flammable liquids in well ventilated areas Post "NO SMOKING" signs Store combustible materials away from flammables 	Portable fire extinguishers	
Operation of Machinery	Slips, Trips, Falls	<ul style="list-style-type: none"> Clear walkways work areas of equipment, tools, vegetation, excavated material and debris Mark, identify, or barricade other obstructions Evaluate fall hazards above 4 ft.; use fall protection equipment (harness/lanyard), standard guardrails or other fall protection systems when working on elevated platforms above 6 ft. Use heavy duty industrial (type IA) ladders Use 3 point contact when ascending/descending equipment ladders 	Body harnesses/ lanyard (elevated platforms above 6 ft.)	
	Struck By/ Against Heavy Equipment, Flying Debris, Moving Machinery	<ul style="list-style-type: none"> Wear reflective warning vests when exposed to vehicular traffic Isolate equipment swing areas Make eye contact with operators before approaching equipment Barricade or enclose the screen operation area Restrict entry to the work area to heavy equipment operator(s) and screen operator(s) during screening Halt screening work in high winds, severe weather Understand and review hand signals Stand clear of discharge/dump area and barricade area 	Warning vests, Hard hat, Safety glasses, Steel toe work boots	

ACTIVITY HAZARD ANALYSIS FOR OIL SCREENING OPERATIONS

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Operation of Machinery	Inhalation and skin contact with hazardous materials	<ul style="list-style-type: none"> • Provide workers proper skin, eye and respiratory protection based on the exposure hazards present • Apply water spray to minimize/eliminate fugitive dust • Wear PPE to avoid skin contact with contaminated soil, or other skin irritants • Monitor breathing zone air to determine levels of contaminants 	Level 'C' PPE	Data RAM and Personal Sample Pumps
	Handling Heavy Objects	<ul style="list-style-type: none"> • Observe proper lifting techniques • Obey sensible lifting limits (60 lb. maximum per person manual lifting) • Use mechanical lifting equipment (hand carts, trucks) to move large, awkward loads 		
	Sharp Objects	<ul style="list-style-type: none"> • Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp edges or objects • Maintain all tools in a safe condition/ clear of moving machinery • Keep guards in place during screen operations 	Leather gloves	
	High Noise Levels	<ul style="list-style-type: none"> • Use hearing protection when exposed to excessive noise levels (greater than 85 dB A over an 8-hour work period) • Assess noise level with sound level meter if possibility exists to exceed 85 dB A TWA • 	Ear plugs	Sound Level Meter
	Caught In/ Between Moving Parts	<ul style="list-style-type: none"> • Identify and understand parts of equipment which may cause crushing, pinching, rotating or similar motions • Assure guards are in place to protect from these parts of equipment during operation • Maintain all equipment in a safe condition • De-energize and lock-out machinery before maintenance or service • 		
	High/Low Ambient Temperature	<ul style="list-style-type: none"> • Monitor for Heat/Cold stress in accordance with HS400 and HS401 • Provide fluids to prevent worker dehydration • Follow work/rest schedule in Section 3.3.1/3.3.2 of the HASP 	Insulated Clothing (subject to ambient temperature)	Meteorological Equipment

ACTIVITY HAZARD ANALYSIS FOR SOIL SCREENING OPERATIONS

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Handling Lead/Bullet Fragments separated from soils	Inhalation and Skin Contact with Lead	<ul style="list-style-type: none"> • Provide workers proper skin, eye and respiratory protection based on the exposure hazards present • Wear PPE to avoid skin contact with bullet fragments that contain lead • Monitor breathing zone air to determine levels of contaminants • Review hazardous properties of site contaminants with workers before operations begin • Dampen material using light water spray to prevent fugitive dust emissions • Separate and handle in accordance with applicable Military Munitions Rule 	Level 'C' PPE	Data RAM and Personal Sample Pumps
	Handling Heavy Objects	<ul style="list-style-type: none"> • Observe proper lifting techniques • Obey sensible lifting limits (60 lb. maximum per person manual lifting) • Use mechanical lifting equipment (hand carts, trucks) to move large, awkward loads • Bullet fragments are very heavy, pack into small enclosed containers. • Separate and handle in accordance with applicable Military Munitions Rule. 		
EQUIPMENT REQUIRED		INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS	
<ul style="list-style-type: none"> • Excavator • Trucks • Data RAM and personal sampling pumps • Screening unit/conveyors 		<ul style="list-style-type: none"> • Daily equipment inspections as per manufacturers requirements • Inspection of all emergency equipment (i.e.: first aid kits, fire extinguishers) • Inspect all dump trucks in accordance with Section 18 of the USACE EM 385-1-1 Manual 	<ul style="list-style-type: none"> • Review AHA with all task personnel • Review Site Specific Health and Safety Plan. • Review operations/safety manuals for all equipment utilized • Review site specific chemical hazards 	

ACTIVITY HAZARD ANALYSIS FOR TREATMENT OF SOILS CONTAMINATED WITH LEAD

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Excavation of Soil	Underground/ Overhead Utilities	<ul style="list-style-type: none"> Identify all utilities around the site before work commences Cease work immediately if unknown utility markers are uncovered Use manual excavation within 3 feet of known utilities Utility clearance shall conform with 29 CFR 1926.955 (high voltage >700 kv) 15 feet phase to ground clearance; 31 feet phase to phase clearance Complete utility location permit in accordance with IT procedure HS308. 		
	Struck By/ Against Heavy Equipment	<ul style="list-style-type: none"> Wear reflective warning vests when exposed to vehicular traffic Isolate equipment swing areas Make eye contact with operators before approaching equipment Understand and review hand signals Step away from equipment when bucket adjustments are made. Do not attempt verbal communication in high noise backgrounds Park equipment in areas where operator can see clearly to dismount equipment Report minor incidents to site supervisor 		
	Slips, Trips, Falls	<ul style="list-style-type: none"> Clear, walkways of equipment, vegetation, excavated material, tools and debris Mark, identify, or barricade other obstructions Exit equipment slowly and maintain three point contact Clean boot soles before climbing on equipment 		
	Sharp Objects	<ul style="list-style-type: none"> Wear cut resistant work gloves when the possibility of lacerations or other injury may be caused by sharp edges or objects Maintain all hand and power tools in a safe condition Keep guards in place during use Observe work area and location of other personnel before lifting/moving objects with sharp edges 	Leather gloves	
	Handling Heavy Objects	<ul style="list-style-type: none"> Observe proper lifting techniques Review proper lifting posture/techniques regularly at safety meetings Obey sensible lifting limits (60 lb. maximum per person manual lifting) 	Warning vests, hard hat, safety glasses, steel toe work boots	

ACTIVITY HAZARD ANALYSIS FOR TREATMENT OF SOILS CONTAMINATED WITH LEAD

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
Excavation of Soil (continued)		<ul style="list-style-type: none"> • Use mechanical lifting equipment (hand carts, trucks) to move large, awkward loads • Avoid carrying heavy objects above shoulder level • Warm up muscles before engaging in manual lifting 		
	Inhalation and Contact with Hazardous Substances	<ul style="list-style-type: none"> • Provide workers proper skin, eye and respiratory protection based on the exposure hazards present • Review hazardous properties of site contaminants with workers before operations begin • Monitor breathing zone air to determine levels of contaminants • Cover stockpiled soil with plastic sheeting to prevent fugitive dust emissions • Dampen work area to control dust • Position workers upwind as much as possible 	Level 'C' PPE, Tyvek® coveralls, inner latex sample gloves, outer leather gloves and boot covers.	Data Ram and Personal Sample Pumps
Manual Excavation	Struck/Struck By	<ul style="list-style-type: none"> • Use the right tool for the task at hand • Maintain personal balance when performing manual excavation • Concentrate on the task being performed 		
	Overexertion	<ul style="list-style-type: none"> • Use the right tool for the task at hand • Avoid actions/activities that produce overexertion 		
Soil Transport	Defective Vehicles	<ul style="list-style-type: none"> • Inspect all trucks daily before loading • Do not load materials into defective equipment 		
	Roadways	<ul style="list-style-type: none"> • Ensure that the roadways on the route to the landfill or final destination are designed to handle the weight of the vehicles. 		
Adding and Mixing TSP	Inhalation and Contact with Hazardous Substances	<ul style="list-style-type: none"> • Provide workers proper respiratory, skin and eye protection based on the exposure hazards present • Review hazardous properties of site contaminants with workers before operations begin. • Monitor breathing zone and perimeter air to determine levels of contaminants • Cover stockpiled soil with plastic sheeting to prevent fugitive dust emissions • Dampen work area to control dust • Position workers upwind as much as possible 	Level 'C' PPE, Tyvek® coveralls, inner latex sample gloves, outer leather gloves and boot covers.	Data Ram

ACTIVITY HAZARD ANALYSIS FOR TREATMENT OF SOILS CONTAMINATED WITH LEAD

Task Breakdown	Potential Hazards	Critical Safety Practices	Personal Protective Clothing and Equipment	Monitoring Devices
	Struck By/ Against Heavy Equipment	<ul style="list-style-type: none"> • Wear reflective warning vests when exposed to vehicular traffic • Isolate equipment swing areas • Make eye contact with operators before approaching equipment • Understand and review hand signals • Step away from equipment when bucket adjustments are made. • Do not attempt verbal communication in high noise backgrounds • Park equipment in areas where operator can see clearly to dismount equipment • Report minor incidents to site supervisor 	Reflective vests	
EQUIPMENT REQUIRED		INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS	
<ul style="list-style-type: none"> • Excavator • Trucks • Data RAM and personal sampling pumps • Dust suppression equipment 		<ul style="list-style-type: none"> • Daily equipment inspections as per manufacturers requirements • Inspection of all emergency equipment (i.e.: first aid kits, fire extinguishers) 	<ul style="list-style-type: none"> • Review AHA with all task personnel • Review Site Specific Health and Safety Plan and Addendum. • Review operations/safety manuals for all equipment utilized • Review site specific chemical hazards 	

APPENDIX B

**PROGRAM QUALITY CONTROL PLAN ADDENDUM
FOR
BERM SOIL EXCAVATION, SCREENING, TREATMENT AND
DISPOSAL – STONE BAY RANGES
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA**

Prepared for:

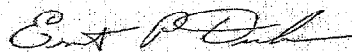
DEPARTMENT OF THE NAVY
Contract No. N62470-02-D-3260
Task Order No. 013

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Ernest P. Duke
Program QC Manager



Roland Moreau, P.E.
Program Manager

SHAW Project No. 100105
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STATEMENT OF QC PROGRAM

This Site Specific Addendum to the Program QC Plan is prepared and submitted for Task Order 013, Berm Soil Excavation, Screening, Treatment and Disposal, Stone Bay Ranges. This plan incorporates methods and procedures from the Quality Control Program Plan approved by the Atlantic Division, Naval Facilities Engineering Command. The Quality Control Program Plan was developed specifically to be responsive to the Contract Specification, Contract No. N62470-02-D-3260, Atlantic Division, Naval Facilities Engineering. SHAW will perform the inspections and tests required to ensure that materials, workmanship, and construction conform to drawings, specifications, and contract requirements.

Note to Employees – Concept of Quality Control

Quality control should not be considered a person or an organization of personnel, but a concept to perform in such a manner that the end product of our efforts provides a quality product and customer satisfaction. The quality control individual or group cannot inspect quality into the final product, but only inspect and document the results of our efforts. The only people that can build quality into the product are the individuals performing the task of producing the end product.

It should be noted by all employees that the documentation requirements of SHAW procedures, plans, and the Task Order Specifications are considered equally as important as the end product itself. When it is stated that the documentation will be approved prior to the start of work, this is what is intended. To eliminate problems in this area requires careful planning and execution by everyone.

We would do well to remember that our livelihood depends on how well we satisfy our customer. To accomplish this requires teamwork and attention to detail by all employees and contractors.

I. QUALITY CONTROL ORGANIZATION

The QC Manager will have the authority to implement and manage the QC Plan, the three phases of quality control and the authority to stop work, which is not in compliance with the contract.

Mr. Luke Garcia-Somuk will function as the Site QC Manager and also as the Site Foreman for this Task Order. Mr. Garcia-Somuk has more than 5 years construction management and QA/QC experience and maintains current US Army Corps of Engineers (USACE) Construction Quality Management for Contractors, QC certification.

Mr. Randy Smith will function as the Alternate QC Manager when Mr. Garcia-Somuk is not on-site. Mr. Smith has more than 10 years of construction management and QA/QC experience and also maintains current US Army Corps of Engineers (USACE) Construction Quality Management for Contractors, QC certification.

Mr. Ron Kenyon, Shaw Project Manager will be in direct contact with Mr. Randy Smith who is the Site Superintendent, concerning the operational activities at the sites.

Mr. Ernie Duke, Shaw Program QC Manager will serve to resolve any QC related issues, which need his involvement. The Site QC Manager will have a direct line of communication to the Program QC Manager on QC issues.

The relationship between the QC Organization, and Production Personnel of the Task Order, is presented in the Quality Control Plan

Organizational Chart, Figure I-1.

II. IDENTIFICATION OF PERSONNEL ASSIGNED TO THE QC ORGANIZATION

Figure II-1 provides the resume of the Site QC Manager. The resume of the Alternate QC Manager will be provided upon request.

III. APPOINTMENT LETTERS

The Site QC Manager appointment letter is provided as Figure III-1.

IV. OUTSIDE ORGANIZATIONS

A list of outside organizations such as subcontractors employed by SHAW for work under this task order is provided in Exhibit IV-1. This list provides each firm's name and address and a description of the services each firm will provide. This list will be maintained current and will be available for review.

V. INITIAL SUBMITTAL REGISTER & REVIEWER

V.1 Submittal Register

The Initial Submittal Register is provided as Exhibit V-1. The status of each submittal will be recorded as changes occur.

V.2 Personnel Authorized to Review and Certify Submittals

Personnel authorized to review and certify submittals other than the Site QC Manager are identified on Exhibit V-2. Any additional personnel assigned to perform submittal review and certification must be approved by the CO, prior to performance.

VI. TESTING LABORATORY ACCREDITATION

Testing laboratory accreditation requirements are addressed in the Program QC Plan Section 1, part 4.7, Construction Testing.

VII. TESTING PLAN & LOG PREPARATION

A Testing Plan and Log has been prepared for this TO and is provided as Exhibit VII-1.

VIII. REWORK ITEMS

Rework Items will be documented on the Daily QC Report. These will be documented and tracked on the Rework Items form.

IX. DOCUMENTATION PROCEDURES

The Daily Production Report form and Daily QC Report form will be completed to document the work activities and QC functions performed for each day of site activity.

X QUALITY CONTROL INSPECTION PLAN

The Quality Control Inspection Plan, Exhibit X-1, lists each specification section and definable feature of work with provisions for recording the corresponding checklist/report for each phase of the three phase control process. As each control phase is satisfactorily preformed, the Site QC Manager will record the corresponding checklist/report date.

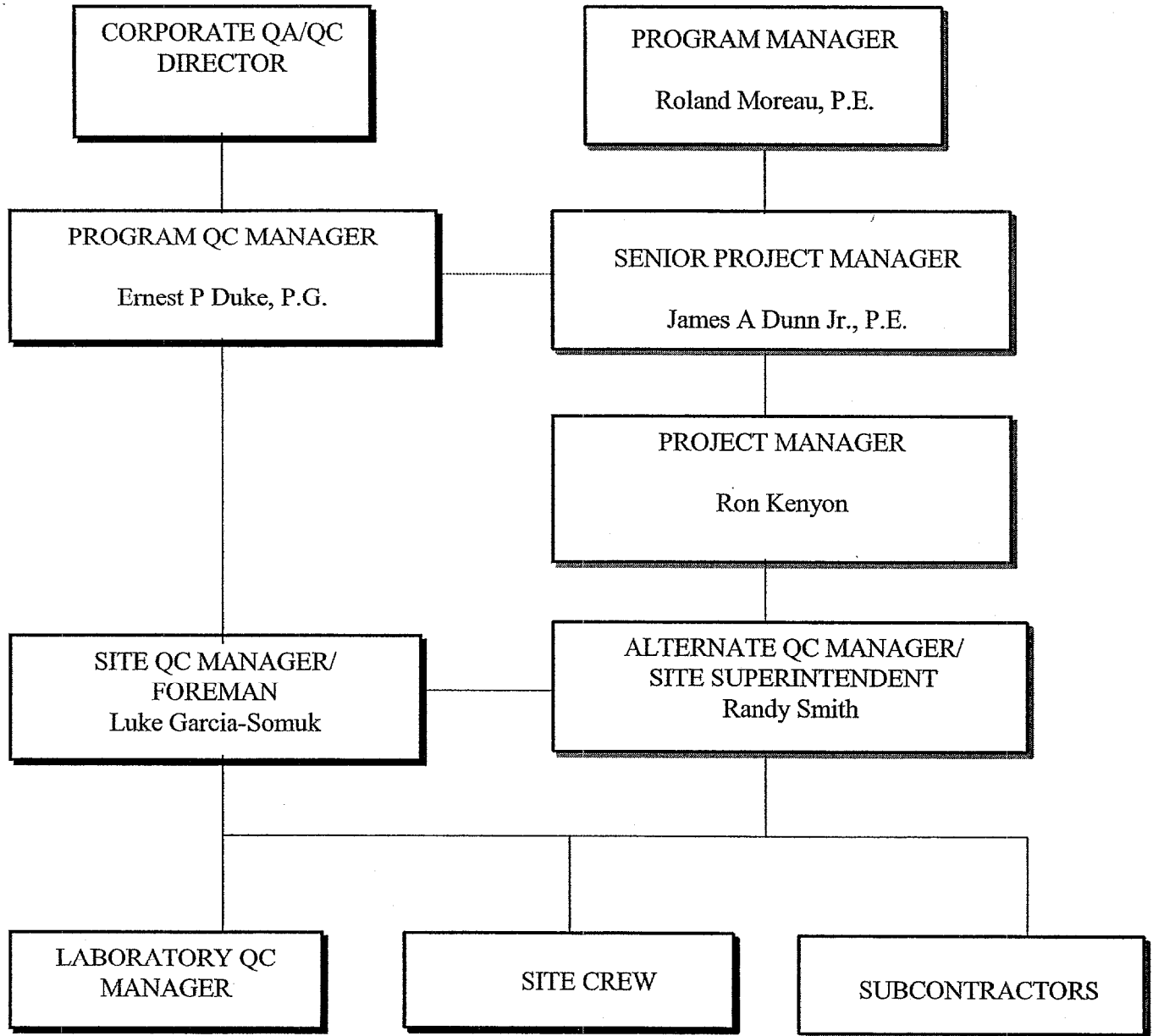
This list has been prepared to correspond to the activities of the project schedule. It will be maintained as provided in Section 1, Part 4.4 of the PQCP. Each preparatory, initial and follow-up phase checklist/report will reflect the construction activity number derived from the construction schedule.

XI. PERSONNEL MATRIX

The personnel matrix, Exhibit XI-1, shows each section of the TO specification with identification of who will review and certify submittals, who will perform and document the three phases of control, and who will perform and document testing. This matrix should be completed as much as possible prior to and during site mobilization.

FIGURE I-1

**QC ORGANIZATIONAL RELATIONSHIP WITH
PRODUCTION PERSONNEL
SHAW ENVIRONMENTAL INC.,
TASK ORDER NO. 017**



**Figure II-1
Site QC Manager**

Luke Garcia-Somuk

Professional Qualifications

Mr. Garcia-Somuk has eight years experience supervising crews in the construction field for both government and private contractors. His responsibilities have included directing site work to achieve compliance with project specifications and schedules. His experience includes reading specifications and drawings and establishing schedules and quality requirements for each task to assure the work is completed to the quality specified and to the satisfaction of the clients. This requires working closely with the clients, vendors and subcontractors to assure the work is completed as specified. He has supervised projects with multiple work activities and requirements and is successful with the projects completed. His experience includes construction management, quality assurance and quality control, field supervision and mechanical construction.

Education

Onslow County High School; Jacksonville, North Carolina; Graduated 1994 /

Additional Training

40 Hour OSHA Hazardous Waste Operations Certification
USACE Quality Control for Contractors Certification
Health and Safety Site Safety Officer Training – 29 CFR 1910.120

December 15, 2003

Luke Garcia-Somuk
Shaw Environmental, Inc.
Bldg 626, Lot 203
Piney Green Road
Camp Lejeune, NC. 28547

RE: Site QC Manager
Contract N62470-02-D-3260
Task Order 013

Dear Luke Garcia-Somuk:

This letter will serve as your appointment as the Site Quality Control Manager on the referenced project and will also clarify your duties and authority in this position. In this position, you will be authorized to use available resources to satisfy all applicable requirements of the Program and Task Order Quality Control Plans.

This authorization specifically gives you the authority to direct removal and replacement or correction of nonconforming materials or work and stop work authority when continuation would be unsafe to personnel, harmful to the environment, or result in a significant degradation of quality.

You will be expected to work closely with the Project Manager, Site Supervisor and other project personnel, but you will not be directly responsible to anyone but myself for resolution of quality issues when working in the capacity of Quality Control Manager.

If you have any question in this matter, please contact me.

Respectfully,

Ernest P. Duke
Program QC Manager
LANTDIV RAC Program

EXHIBIT IV-I

SUBCONTRACTOR LIST

COMPANY NAME & ADDRESS	DESCRIPTION OF SERVICES PROVIDED:
Les Craft Locating Contractor	Utility Locations
S & ME Wilmington, NC	Subgrade Compaction, Geotechnical and Concrete Testing
Accutest Laboratories	Chemical Analytical Testing
	Electrical Contractor for power distribution
	Transportation and Disposal of Waste

EXHIBIT V-1 **SUBMITTAL REGISTER**

Task Order: 013
Contract No: N62470-02-D-3260

Project Number:
Project Title: Berm Soil Excavation, Screening, Treatment and Disposal
Stone Bay Ranges, MCB Camp Lejeune, NC.

Revision : 01
SHAW ENVIRONMENTAL INC.

Submittal No.	Spec Section No.	SD No., and Type of Submittal Material or Product	Spec Para No.	Classification Approval By Contracting Officer *	Government Or QC Reviewer	Transmittal Control No.	Planned Submittal Date	Contractor Action			Approving Authority Action				Contractor Mailed to Contractor/ Received from Approve Authority	Remarks
								Action Code	Date of Action	Date Forward to Approved Authority/ Date Received From Contractor	Date Forwarded to other Reviewer	Date Received from other Reviewer	Action Code	Date of Action		
(a)	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
	N/A	SD-01 Preconstruction	N/A													
		Work Plan			G											
		Base Construction Permit			G											
		Utility Clearances														
		Electrical Permits			G											
		SD-11 Closeout Submittals														
		Monthly Progress Report														
		Monthly Progress Schedule														
		Quality Control Daily Reports														
		Rework Items List														
		AS-Built Drawings														
		SD-09 Reports														
		Treatability Test Results														
		TCLP Results of Stabilized Soil														
		Waste Profiling Analysis Results														
		SD-13 Certifications														
		Testing Laboratory Qualifications														
		SD-18 Records														
		Disposal Documentation														
		Transportation and Disposal Log														
		SD-19 Operation and Maintenance Manuals														
		Bullet Trap O&M Manual														
		Dust Collector O&M Manual														

Quality Control Plan

***Navy Notes:**

Approved By:

G: Contracting Officer

Blank: CQC Manager

Action Codes:

NR: Not Reviewed

A: Approved

AN: Approved as Noted

RR: Disapproved; Revise and Resubmit

(Others may be prescribed by Transmittal Form)

EXHIBIT V-2

LIST OF PERSONNEL AUTHORIZED TO REVIEW & CERTIFY SUBMITTALS

SPECIFICATION SECTION:	SUBMITTAL TYPE:	AUTHORIZED PERSONNEL:
Work Plan	All Types	QC Manager, Program QC Manager Project Manager Site Engineer

EXHIBIT VII-1

TESTING PLAN AND LOG

CONTRACT NUMBER N62470-02-D-3260			PROJECT TITLE & LOCATION: BERM SOIL EXCAVATION, SCREENING, TREATMENT AND DISPOSAL -- STONE BAY RANGES, MCB CAMP LEJEUNE, NC					CONTRACTOR SHAW ENVIRONMENTAL, INC.			
SPECIFICATION SECTION AND PARAGRAPH NUMBER	ITEM OF WORK	TEST REQUIRED	ACCREDITED /APPROVED LAB		SAMPLED BY	TESTED BY	LOCATION OF TEST		DATE COMPLETE	DATE FORWARDED TO CONTR. OFF	REMARKS
			YES	NO			ON SITE	OFF SITE			
Work Plan 3.3.1 & 3.4.1	Demolition of Structures	Disposal Profiling of waste debris for lead									
Work Plan 3.3.2 & 3.4.2	Berm Soil Excavating and Screening	Disposal Profiling of oversize material for lead									
Work Plan 3.3.3 & 3.4.3	Soil Stabilization	Five Point Composite Sample from each 100 CY Stabilized Stockpile for TCLP Lead									
Work Plan 3.3.4	Concrete Installations	Concrete compressive strength cylinders for 7 and 28 day break, Slump and Air Entrainment One test per Drain Trench Section									

EXHIBIT X-I
QUALITY CONTROL INSPECTION PLAN
BERM SOIL EXCAVATION, SCREENING, TREATMENT AND DISPOSAL
STONE BAY RANGES
TO 013

Specification Section	Definable Feature of Work	Activity Number	Preparatory Phase Checklist/ Report Date	Initial Phase Checklist/ Report Date	Follow-up Phase Start Date
WP - 3.2	Site Preparation				
WP - 3.3.1 & 3.4.1	Demolition of Existing Structures				
WP - 3.3.2 & 3.4.2	Berm Soil Excavation and Screening				
WP - 3.3.3 & 3.4.3	Soil Stabilization				
WP - 3.3.4	Concrete Installations				
WP - 4.0	Electrical Power Distribution				
WP - 5.0	Environmental Controls				
WP - 6.0	Transportation and Disposal				
WP - 4.2 & 4.3	Transportation and Disposal				

EXHIBIT XI-1

PERSONNEL MATRIX

SPECIFICATION SECTION:	SUBMITTALS TO BE REVIEWED BY:	THREE PHASE TO BE PERFORMED BY:	TESTING TO BE PERFORMED BY:
All Sections	Site QC Manager, Program QC Manager, Project Manager or Project Engineer	Site QC Manager	Chemical Analysis - Accutest Laboratories

APPENDIX C

Addendum to the Camp Lejeune Basewide Sampling and Analysis Plan For Berm Soil Screening, Stone Bay Ranges

1.0 Introduction

This Addendum to the Basewide SAP for Camp Lejeune Marine Corps Base was developed to provide task-specific requirements for the repair of the Rapid Stone Bay Ranges soil screening project, under Task Order 013. This Addendum is to be used in conjunction with the Basewide SAP. In the case of discrepancies between this Addendum and the Basewide SAP, this document takes precedence.

2.0 Scope of Work

Two primary sampling and analytical tasks have been identified for the project, sampling of screened and stabilized soils, as well as the characterization of various debris or contaminated waste streams to arrange proper final disposal at the correct waste facility. Based on Shaw's previous experience at the site, lead is the primary contaminant of concern at the site. Petroleum hydrocarbons (TPHCs) are also frequently a concern at most Camp Lejeune project sites.

3.0 Sampling and Analytical Methodology

All project samples will be collected in accordance with the requirements of the Camp Lejeune Basewide SAP. Table 1 presents a summary of the intended field sampling and laboratory analytical methods for the project. The samples will be analyzed by the fixed-base laboratory using appropriate SW-846 Update III and other EPA-approved methods. The following sections present the identified project specific sample media expected, and the sampling and analytical methods that will be used.

3.1 Excavated and Screened Soils

Soil samples will first be collected from the screened soils to determine if chemical stabilization is required before replacement on the sites. Hand augers will be used to collect the samples from the stockpiles. These samples will be analyzed for TCLP (leachable) lead only. If the results show the stockpile exceeds the federal TCLP limit (5 mg/l), the stockpile will be designated for chemical stabilization with TSP. After the

stabilization process, the stockpile will again be sampled and tested for TCLP lead in a similar manner.

3.2 Demolition Debris

Sampling for disposal characterization and transport under RCRA and DOT regulations typically occurs at a frequency of one sample per 1000 cubic yards of waste or for each different type of waste generated from the project site. Therefore one sample from each type of demolition debris stockpile will be collected for full TCLP analysis, Ignitability, Reactivity, and Corrosivity (I/R/C). A composite sample is generated for all non-volatile analyses, while a single grab sample is collected for the TCLP VOC analysis. Based on State UST guidelines, sampling is conducted at a frequency of every 200 cubic yards for TPHC analysis. These samples will be tested for Diesel Range Organics by SW-846 method 3550/8015B and Gasoline Range Organics by SW-846 method 5035/8015B.

A chip sampling method utilizing a chisel to generate debris "chip" pieces for analysis is the method that will be used.

4.0 Subcontracted Laboratory

Samples will be packed with ice in shipping containers for overnight shipment to the lab. The laboratory Chain of Custody will be prepared in the field and placed with the samples for shipment.

A laboratory previously procured for Navy Atlantic Division work will be assigned this task based on the capacity and capabilities of the pre-approved laboratories at the time of sampling.

Tables

TABLE 1
SAMPLING AND ANALYTICAL SUMMARY

Sample Point	Matrix	Sampling Frequency	Approx Sample No	Sampling Method	Sampling Equipment	TAT	QC Level	Required Analysis	Analytical Method	Holding Time	Preservatives	Containers
Excavated soil / Stabilized soil	Soil	One/ stockpile	20	Composite	Stainless Hand Auger	3 day	Shaw Standard	TCLP Lead	1311/ 6010B	14 days to Leaching 14 days to Extraction 40 days to Analysis		(1) 4 oz Glass Jar
Demolition debris	Concrete/ wood Debris	One/ 1000 cubic yards	2- wood 2- concrete	Grab	chip/ chisel	14 days	Shaw Standard	TCLP Volatiles	1311/8260B	14 days to Leaching 14 days to Analysis	Cool to 4°C	(1) 4 oz Glass Jar
				Composite				TCLP Semi-Volatiles	1311/8270C	14 days to Leaching 14 days to Extraction 40 days to Analysis		(2) 16 oz Glass Jar
								TCLP Pesticides	1311/8081A	15 days to Leaching 14 days to Extraction 40 days to Analysis		
								TCLP Herbicides	1311/8151A	16 days to Leaching 14 days to Extraction 40 days to Analysis		
								TCLP Metals	1311/6010B/7470A	14 days to Leaching 180 days to Analysis		
		One/ 200 cubic yards One/ 200 cubic yards		Composite	chip/ chisel	14 days	Shaw Standard	pH	9045C	None		(1) 8 oz jar
								Ignitability	1010	None		
								Total Cyanide	9010B	None		
								Total Sulfide	9030	None		
								TPHC - DRO	3550/8015B	14 days to Leaching 14 days to Analysis		
								TPHC - GRO	3550/8015B	14 days to Leaching 14 days to Analysis		

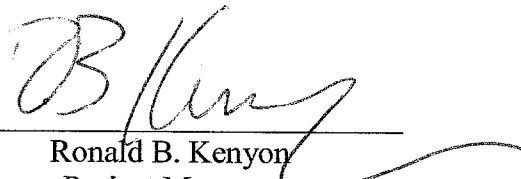
APPENDIX D

STANDARD OPERATING PROCEDURE
FOR
RANGE DEBRIS CERTIFICATION/ VERIFICATION


MCB CAMP LEJEUNE

Prepared by:





Ronald B. Kenyon
Project Manager



Roland Moreau
Program Manager

January 2004

ACRONYMS

SOP - Standard Operating Procedure

MCB – Marine Corps Base

MR – Munitions Rule

AEDA – Ammunitions, explosives, and dangerous articles

QRP – Qualified recycling program

DoD – Department of Defense

DCU – Dust collection unit

DOT – Department of Transportation

DRMO – Defense Reutilization and Marketing Office

RCRS – Resource Conservation and Recovery Section

EMD – Environmental Management Division

1.0 INTRODUCTION

This Standard Operating Procedure (SOP) has been developed by Shaw Environmental, Inc. (Shaw) to present the mechanisms for completing the Inspection and Certification of Small Arms Range debris being removed during MCB Camp Lejeune's ongoing Range Maintenance Program.

Under the Military Munitions Rule (MR)/ 40 CFR Part 260, as promulgated in the Federal Register (62 FR 6621) of February 12, 1997, debris being removed from these Range maintenance activities including munitions fragments, casings, and shrapnel are considered Waste Military Munitions. As such, they are also considered AEDA (ammunitions, explosives, and dangerous articles) scrap by DoD which must be certified as safe before being turned over to a Qualified Recycling Program (QRP) for resale or recycling as required under DoD Instruction 4715.4 (June 18, 1996).

DoD munitions guidance also states that the procedure must be a two step process, a first signature "Certification" step, which can be conducted by a qualified contractor, followed by a secondary "Verification" signature. Typically the verifying individual must be a qualified DoD person and US citizen, but may be waived and also conducted by the DoD contractor if required by a government contract. However, appropriate DoD quality assurance controls must be established in this instance. All inspections shall be performed by MPPEH technicians or other technically qualified DoD personnel with comparable expertise. If commercial contractors (Shaw) perform any or all aspects of the tasks within this scope, they must possess qualifications equal to those of technically qualified DoD personnel.

The following sections discuss Shaw's intended protocols for certifying Small Arms Range debris for recycling, as well as protocols for handling any non-debris items (most likely unfired rounds) at MCB Camp Lejeune.

2.0 MAINTENANCE OPERATIONS OVERVIEW

Shaw typically conducts two main types of Range maintenance activities at MCB Camp Lejeune, removal of debris from earthen berms and surrounding soils, and removal of bullet fragments from any bullet collection traps which have been installed at several ranges.

2.1 Bullet Trap Maintenance

Bullet traps typically consist of several velocity reduction chambers, which decelerate the fired bullets until the major fragment(s) drop into a 5-gallon collection bucket. The entire collection area is equipped with a dust collect unit (DCU) which assures small lead particles and dust are also captured and swept onto a filter. The bullet trap is sized to accommodate the number of firing lanes present at that Range. Based on the amount of

Range usage, these collection buckets must be emptied or replaced as needed. When full, these buckets are dumped into DOT specification 55-gallon, open top drums, using the DCU to assure fugitive dust is not released while transfer is occurring. Due to weight concerns, note that these drums are typically only half-filled so that can still be operationally managed with the equipment on site. These drums are then stored in a secure location on range until removal and recycling can be scheduled.

2.2 Firing Berm Maintenance

Several Ranges at Camp Lejeune do not have bullet traps installed and rounds are still fired into earthen berms constructed behind the target stands. Typical maintenance at these Ranges involves excavating the berm soils, and sifting bullets and debris from the soils using portable power screening plant. Screened soils are then replaced back into the area. If required, these soils may be chemically "stabilized" to assure lead residuals are not leachable or mobile, assuring no further environmental impact will occur.

As with the bullet traps, lead bullet fragments are transferred off of the collection screens and are placed into DOT drums as discussed below and securely stored on range until sufficient quantity exists and recycling arrangements can be completed.

3.0 MATERIALS DEPOSITION

3.1 Unfired Ammunition

Unfired ammunition may be discovered during any of these Range Maintenance activities. Unfired ammunition can be defined as an intact casing containing both the lead bullet and primer. These items will be segregated visually from inert lead fragments as discussed below. As these rounds should be stable, they will be removed by hand from the rest of the range debris and placed in a separate container, typically a DOT specification 5-gallon bucket. Sand or other type of inert packing (i.e. sawdust, vermiculite) is added to the bucket to further secure the round within the bucket. The MCB Camp Lejeune EOD office will be promptly notified and will determine the proper munitions response/ disposal.

3.2 Munitions Scrap and Range Debris

The remaining materials, identified as AEDA scrap above, will then undergo the Certification/ Verification process. As presented above, bullet lead is the predominate range debris encountered. Lead fragments are typically gray in color or may have an exterior oxidation present if they have been exposed, particularly to a marine environment. Therefore, unfired rounds consisting of brass casings are easily segregated by lead debris by visual means. Additionally, brass that is oxidized (greenish color) will also be segregated for further observation and determination.

3.3 Packaging

All other inert debris screened from range soils, or removed from bullet traps, will be placed into DOT 55-gallon drums. Due to weight concerns, these drums are typically only half-filled so they can still be operationally managed with the equipment on site. Only properly inspected material, certified free of AEDA, shall be packaged for transportation to the receiving facility. Shaw shall verify that container and applicable State and USDOT weight limitations are not exceeded prior to final packaging and transportation. Each container will be weighed and the total weight of contents (total weight minus container weight) shall be marked on both the container and an applicable inventory management document.

3.3.1 Certification

At the bullet traps, Shaw will perform the certification process each time full buckets at the traps are emptied into the 55 gallon storage drums. The storage drums will be stored in a secured location so as not to void the certification process until removal from the site. Certification will be documented each time a bullet dump is executed using a label attached to the drums exterior as presented in Appendix A. The following require verbiage will be contained on the label along with multiple certification signature locations:

This certifies and verifies that the AEDA residue, Range residue, and/or Explosive Contaminated property listed has been 100 percent properly inspected and to the best of our knowledge and belief are inert and/or free of explosives or related materials"

3.3.2 Verification

Once the storage drums are filled to capacity, and a sufficient number of drums exist to warrant removal for the site, the verification process will be completed by qualified personnel.

DD Form 1348-1A, as shown in Appendix B, will be used to document the verification process for each drum and the transfer of the material to the intended recycling organization.

At range removal projects, the certification and verification processes will occur together at the completion of the removal project.

3.4 Transportation

Shaw shall comply with all applicable local, State, and Federal transportation requirements in the execution of the scrap management process.

3.5 Shipping Documents

An inventory control document will be prepared, which will list all inspected containers of range scrap, the location to which the drums are transported, and the intended final disposition. Copies of this control document will be provided to the MCB Camp Lejeune's RCRS for review and approval before containers are allowed to leave the range/ storage location.

Properly completed turn-in documents, DD Form 1348-1A, will accompany the inventory management control documents, for review and signature by authorized RCRS personnel prior to any drums of range debris leaving MCB camp Lejeune.

ATTACHMENT A

Certification Label

MCB CAMP LEJUENE

**CERTIFICATION OF RANGE
RESIDUE**

**This certifies that the AEDA residue, Range
Residue and/or Explosive Contaminated property
listed has been 100 percent properly inspected
and to the best of our knowledge and belief, are
inert and/or free of explosives or related materials**

RANGE/LOCATION:

CERTIFIER:

DATE:

CERTIFIER:

DATE:

CERTIFIER:

DATE:

CERTIFIER:

DATE:

CERTIFIER:

DATE:

CERTIFIER:

DATE:

CERTIFIER:

DATE:

ATTACHMENT B

DD Form 1348-1A

